

Access DB# 84774**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: King, Xu Examiner #: 77924 Date: 12-03  
Art Unit: 1775 Phone Number 305-6345 Serial Number: 101062647  
Mail Box and Bldg/Room Location: C23-11028 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

**STAFF USE ONLY**

Searcher: <u>K. Fuller</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>✓</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Completed: <u>1/24/03</u>	Bibliographic _____	Dr.Link _____
Searcher Prep & Review Time: <u>20</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: <u>80</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

# EIC1700

## Search Results

### Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the EIC searcher* who conducted the search *or contact*:

Kathleen Fuller, Team Leader, 308-4290, CP3/4 3D62

#### Voluntary Results Feedback Form

➤ I am an examiner in Workgroup:

Example: 1713

➤ Relevant prior art found, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art not found:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms in CP3/4 - 3D62 .

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:53:14 ON 24 JAN 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 23 JAN 2003 HIGHEST RN 480990-41-8  
DICTIONARY FILE UPDATES: 23 JAN 2003 HIGHEST RN 480990-41-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> FILE HCAPLUS

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FILE COVERS 1907 - 24 Jan 2003 VOL 138 ISS 5  
FILE LAST UPDATED: 23 Jan 2003 (20030123/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> D QUE

L5 539105 SEA FILE=REGISTRY ABB=ON (SI(L)H(L)O(L)C)/ELS  
L6 56690 SEA FILE=REGISTRY ABB=ON L5 AND PMS/CI  
L9 62139 SEA FILE=REGISTRY ABB=ON POLYURETHANE/PCT  
L15 35427 SEA FILE=HCAPLUS ABB=ON L9  
L17 539105 SEA FILE=REGISTRY ABB=ON L5 OR L5  
L18 270000 SEA FILE=REGISTRY RAN=(153145-17-6,) ABB=ON L5 OR L5  
L19 269105 SEA FILE=REGISTRY ABB=ON L17 NOT L18  
L20 64290 SEA FILE=HCAPLUS ABB=ON L18  
L21 170686 SEA FILE=HCAPLUS ABB=ON L19  
L22 235 SEA FILE=HCAPLUS ABB=ON (L20 OR L21)(L)(FOG? OR ANTIFOG? OR  
ANTI(W) FOG?)

L23 2 SEA FILE=HCAPLUS ABB=ON L22 AND L15  
 L24 171 SEA FILE=HCAPLUS ABB=ON L22 AND COATING?  
 L25 63 SEA FILE=HCAPLUS ABB=ON L24 AND COMPOSITION?  
 L26 159788 SEA FILE=HCAPLUS ABB=ON (L20 OR L21) NOT L6  
 L27 286 SEA FILE=HCAPLUS ABB=ON L26(L) (FOG? OR ANTIFOG? OR ANTI(W) FOG?  
 )  
 L28 133 SEA FILE=HCAPLUS ABB=ON L27 AND COATING?  
 L29 32 SEA FILE=HCAPLUS ABB=ON L28 AND COMPOSITION?  
 L30 70 SEA FILE=HCAPLUS ABB=ON L25 OR L29  
 L31 43 SEA FILE=HCAPLUS ABB=ON L30 AND (WATER? OR AQ OR AQUEOUS? OR  
 H2O)  
L32 45 SEA FILE=HCAPLUS ABB=ON L23 OR L31

=> D L32 ALL 1-45 HITSTR

L32 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:772100 HCAPLUS

DN 137:280772

TI Hydrophilic **coating compositions** containing oxide nanoparticles

IN Jonschker, Gerhard

PA Nanogate G.m.b.H., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C09D007-02

ICS C09D183-02; C09D183-04

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10116200	A1	20021010	DE 2001-10116200	20010330
PRAI	DE 2001-10116200		20010330		
AB	The title compns. used for producing very thin inorg. hydrophilic <b>coatings</b> on glass, plastic, metal or ceramic substrates, contain oxide nanoparticles, e.g., silica sol, surface-modifying agents, e.g., betaines, quaternary ammonium compds. or silanes and, optionally, amphiphilic additives, e.g., hydrophilic polymers, alkali or alk. earth ions, etc. The compns. are deposited as solns. to produce phys. films upon room-temp. evapn. of solvents and are useful for <b>coating</b> Al heat exchanger surfaces in air conditioning systems, for textiles and for sanitary purposes such as urinals. For example, a title <b>compn.</b> was manufd. by dissolving anhyd. betaine in <b>aq.</b> silica sol soln., dilg. the soln. with H2O and dissolving Mowiol 10-98 in the soln.				
ST	<b>coating</b> hydrophilic silica sol soln; surface hydrophilization silica sol polyvinyl alc <b>coating</b>				
IT	<b>Antifogging agents</b> ( <b>coatings</b> ; hydrophilic <b>coatings</b> contg. oxide nanoparticles and surface-modifying agents)				
IT	Silica gel, uses RL: TEM (Technical or engineered material use); USES (Uses) (hydrophilic <b>coatings</b> contg. oxide nanoparticles and surface-modifying agents)				
IT	Amphiphiles (hydrophilic polymers; hydrophilic <b>coatings</b> contg. oxide nanoparticles and surface-modifying agents and)				
IT	<b>Coating materials</b>				



(inorg.; hydrophilic **coatings** contg. oxide nanoparticles and surface-modifying agents)

IT Oxides (inorganic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (nanoparticles; hydrophilic **coatings** contg. metal oxide nanoparticles and surface-modifying agents)

IT Surfactants  
 (nonionic; hydrophilic **coatings** contg. oxide nanoparticles and surface-modifying agents and)

IT Nanoparticles  
 (oxides; hydrophilic **coatings** contg. surface-modifying agents and)

IT Coating materials  
 (water-thinned; hydrophilic **coatings** contg. oxide nanoparticles and surface-modifying agents)

IT 9002-89-5, Mowiol 10-98  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (amphiphilic additive; hydrophilic **coatings** contg. oxide nanoparticles and surface-modifying agents and)

IT 7631-86-9, Levasil 200S, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (colloidal; hydrophilic **coatings** contg. oxide nanoparticles and surface-modifying agents)

IT 125523-40-2DP, Glycidether 100, reaction products with (aminopropyl)trimethoxysilane deriv.  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hydrophilic **coatings** contg. oxide nanoparticles and)

IT 1314-23-4, NZS 30A, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (sol, NZS 30A; hydrophilic **coatings** contg. oxide nanoparticles and surface-modifying agents)

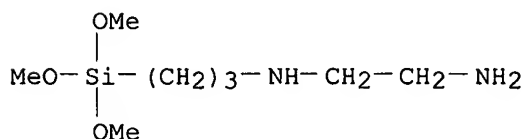
IT 1760-24-3DP, N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane, reaction products with epoxy resin  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (surface-modifying agent; hydrophilic **coatings** contg. oxide nanoparticles and)

IT 107-43-7, Betaine  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (surface-modifying agent; hydrophilic **coatings** contg. oxide nanoparticles and)

IT 1760-24-3DP, N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane, reaction products with epoxy resin  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (surface-modifying agent; hydrophilic **coatings** contg. oxide nanoparticles and)

RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



L32 ANSWER 2 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:423019 HCAPLUS

DN 137:7613

TI Antifogging silicone resin **coating compositions** and coated articles

IN Yamamoto, Tetsuya; Kamiyama, Takuya

PA Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D183-04

ICS B32B027-00; C03C017-30; C09D005-00; C09D179-02; C09D185-00;

C09K003-18; G02B001-04; G02B001-10; G02C011-08

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002161241	A2	20020604	JP 2000-359950	20001127
PRAI	JP 2000-359950		20001127		

AB The compns. contain (A) org. compds. bearing functional groups other than SiOR1 (R1 = H, Cl-4 alkyl), (B) org. compds. bearing SiOR1 and functional groups reactive with A and their hydrolytic condensates, and (C) solvents. Thus, a toluene/MeOH/water soln. of .gamma.-aminopropyltrimethoxysilane and bisphenol A diglycidyl ether was applied on a glass and heated to give a **coating** showing good antifogging property at 525.degree. and relative humidity 70% for 2 min.

ST antifogging epoxy resin silsesquioxane **coating** glass; aminopropyltrimethoxysilane bisphenol glycidyl ether copolymer antifogging **coating**

IT Plastic films

(antifogging silicone resin **coating** compns. for)

IT Glass, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(antifogging silicone resin **coating** compns. for)

IT Antifogging agents

(coatings; antifogging silicone resin **coating** compns.)

IT Silsesquioxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(epoxy-; antifogging silicone resin **coating** compns.)

IT Polyesters, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(films; antifogging silicone resin **coating** compns. for)

IT Silsesquioxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamine-; antifogging silicone resin **coating** compns.)

IT Epoxy resins, uses

Polyamines

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(silsesquioxane-; antifogging silicone resin **coating** compns.)

IT 30642-52-5P, Epomin SP 018-.gamma.-glycidoxypolytrimethoxysilane copolymer 52238-11-6P, .gamma.-Aminopropyltrimethoxysilane-bisphenol A diglycidyl ether copolymer 294175-03-4P, .gamma.-Aminopropyltrimethoxysilane-bisphenol A diglycidyl ether-M Silicate 51 copolymer 294175-05-6P, Epomin SP 018-.gamma.-glycidoxypolytrimethoxysilane-M Silicate 51 copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (antifogging silicone resin coating compns.)

IT 9003-07-0, Polypropylene  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (biaxially oriented films; antifogging silicone resin coating compns. for)

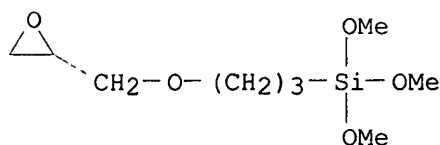
IT 25038-59-9, Poly(ethylene terephthalate), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (films; antifogging silicone resin coating compns. for)

IT 30642-52-5P, Epomin SP 018-.gamma.-glycidoxypropyltrimethoxysilane copolymer 52238-11-6P, .gamma.-Aminopropyltrimethoxysilane-bisphenol A diglycidyl ether copolymer 294175-03-4P, .gamma.-Aminopropyltrimethoxysilane-bisphenol A diglycidyl ether-M Silicate 51 copolymer 294175-05-6P, Epomin SP 018-.gamma.-glycidoxypropyltrimethoxysilane-M Silicate 51 copolymer  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (antifogging silicone resin coating compns.)

RN 30642-52-5 HCAPLUS  
 CN Aziridine, polymer with trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI)  
 (CA INDEX NAME)

CM 1

CRN 2530-83-8  
 CMF C9 H20 O5 Si



CM 2

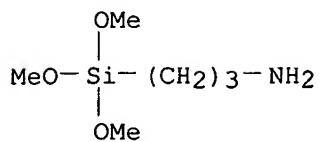
CRN 151-56-4  
 CMF C2 H5 N



RN 52238-11-6 HCAPLUS  
 CN 1-Propanamine, 3-(trimethoxysilyl)-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] (9CI) (CA INDEX NAME)

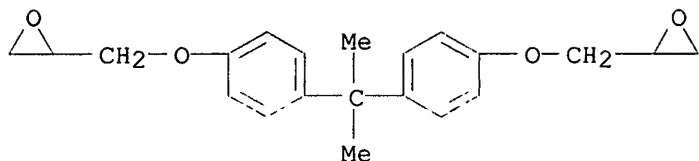
CM 1

CRN 13822-56-5  
 CMF C6 H17 N O3 Si



CM 2

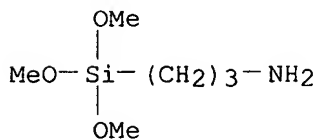
CRN 1675-54-3  
CMF C21 H24 O4



RN 294175-03-4 HCAPLUS  
EN Silicic acid, methyl ester, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and 3-(trimethoxysilyl)-1-propanamine (9CI) (CA INDEX NAME)

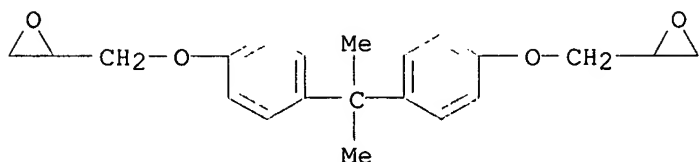
CM 1

CRN 13822-56-5  
CMF C6 H17 N O3 Si



CM 2

CRN 1675-54-3  
CMF C21 H24 O4



CM 3

CRN 12002-26-5

CMF C H4 O . x Unspecified

CM 4

CRN 1343-98-2

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 67-56-1

CMF C H4 O

H<sub>3</sub>C--OH

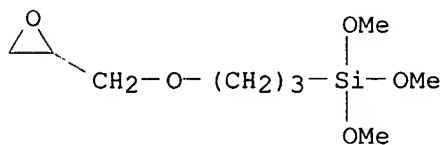
RN 294175-05-6 HCAPLUS

CN Silicic acid, methyl ester, polymer with aziridine and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 2530-83-8

CMF C9 H20 O5 Si



CM 2

CRN 151-56-4

CMF C2 H5 N



CM 3

CRN 12002-26-5

CMF C H4 O . x Unspecified

CM 4

CRN 1343-98-2

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 67-56-1

CMF C H4 O

H<sub>3</sub>C-OH

L32 ANSWER 3 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:147796 HCAPLUS

DN 136:201940

TI Transparent and smooth and antifogging coating materials resistant to bleeding and abrasion

IN Takeda, Toshihiko; Kikuchi, Yoshihiko

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D183-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 33, 44

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002060688	A2	20020226	JP 2000-246168	20000815
PRAI	JP 2000-246168		20000815		

AB Coating materials contain sugar-polysiloxanes. Thus, a coating material on a polyester sheet contained a reaction product of 1-.beta.-glucosamine with ClOCCH<sub>2</sub>CH<sub>2</sub>(SiMe<sub>2</sub>O)<sub>n</sub>SiMe<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>COCl.

ST sugar polysiloxane coating material antifogging

IT Carbohydrates, uses  
Oligosaccharides, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(-polysiloxanes; transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT Polysiloxanes, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(amino, reaction products with cyclosiloxanes; transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT Antifogging agents  
(coatings; transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT Polysiloxanes, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(sugar-; transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT Cyclosiloxanes  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT 204193-77-1DP, D-Gluconic acid chloride, reaction products with

aminosiloxane oligomers 401625-44-3P 401625-45-4P  
401788-94-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT 204193-77-1P, D-Gluconic acid chloride 334535-25-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT 111-83-1, 1-Bromooctane 526-95-4, Gluconic acid 2974-68-7  
7439-95-4, Magnesium, reactions 7719-09-7, Thionyl chloride  
10026-04-7, Tetrachlorosilane

RL: RCT (Reactant); RACT (Reactant or reagent)  
(transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

IT 401625-44-3P 401625-45-4P 401788-94-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(transparent and smooth and antifogging coating materials resistant to bleeding and abrasion)

RN 401625-44-3 HCAPLUS

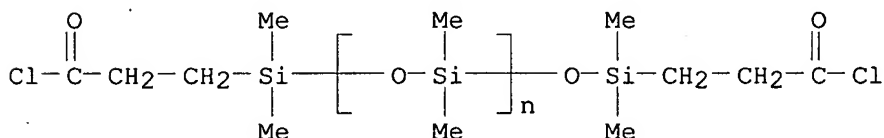
CN .beta.-D-Glucopyranosylamine, polymer with .alpha.-[(3-chloro-3-oxopropyl)dimethylsilyl]-.omega.-[[ (3-chloro-3-oxopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 334535-25-0

CMF (C2 H6 O Si)<sub>n</sub> Cl<sub>10</sub> H<sub>20</sub> Cl<sub>2</sub> O<sub>3</sub> Si<sub>2</sub>

CCI PMS

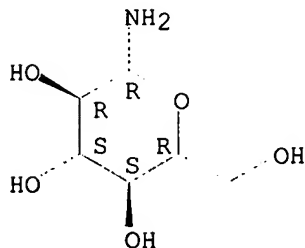


CM 2

CRN 7284-37-9

CMF C<sub>6</sub> H<sub>13</sub> N O<sub>5</sub>

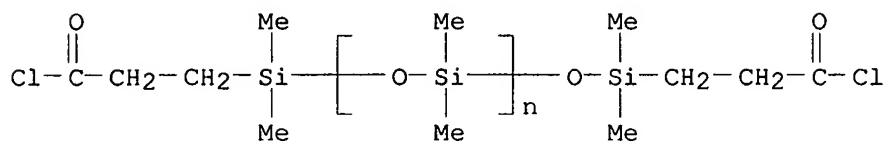
Absolute stereochemistry.



RN 401625-45-4 HCAPLUS  
 CN .beta.-D-Glucopyranosylamine, polymer with .alpha.-[(3-chloro-3-oxopropyl)dimethylsilyl]-.omega.-[[[(3-chloro-3-oxopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)]] and 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

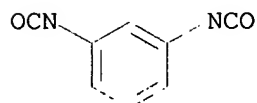
CM 1

CRN 334535-25-0  
 CMF (C2 H6 O Si)<sub>n</sub> C10 H20 Cl2 O3 Si2  
 CCI PMS



CM 2

CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS

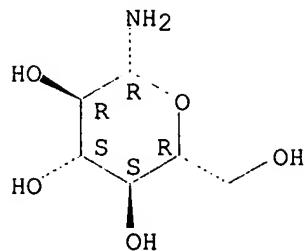


D1-Me

CM 3

CRN 7284-37-9  
 CMF C6 H13 N O5

Absolute stereochemistry.



RN 401788-94-1 HCAPLUS  
 CN Cellulose, triacetate, polymer with .alpha.-[(3-chloro-3-



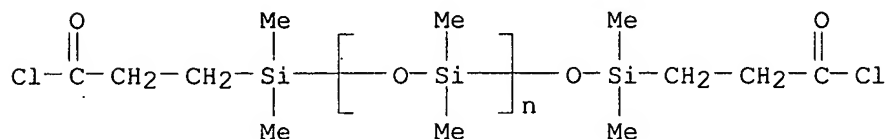
oxopropyl)dimethylsilyl]-.alpha.-[[(3-chloro-3-oxopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 334535-25-0

CMF (C2 H6 O Si)n Cl0 H20 Cl2 O3 Si2

CCI PMS



CM 2

CRN 9012-09-3

CMF C2 H4 O2 . 1/3 Unspecified

CM 3

CRN 9004-34-6

CMF Unspecified

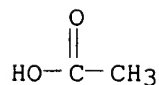
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 64-19-7

CMF C2 H4 O2



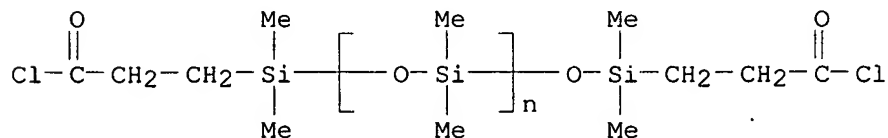
IT 334535-25-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(transparent and smooth and **antifogging** coating materials resistant to bleeding and abrasion)

RN 334535-25-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)], .alpha.-[(3-chloro-3-oxopropyl)dimethylsilyl]-.omega.-[[(3-chloro-3-oxopropyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)

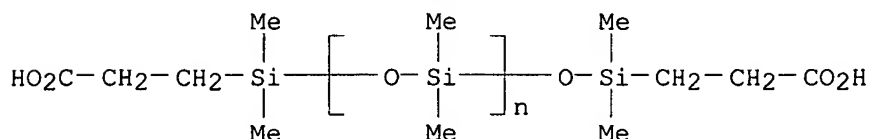


IT 2974-68-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (transparent and smooth and **antifogging** coating materials  
 resistant to bleeding and abrasion)

RN 2974-68-7 HCAPLUS

CN Poly[oxy(dimethylsilylene)], .alpha.-[(2-carboxyethyl)dimethylsilyl]-  
 .omega.-[(2-carboxyethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



L32 ANSWER 4 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:459812 HCAPLUS

DN 135:62729

TI Antifogging **coating**-finished transparent substrates with  
 aromatic odor and method for their formation

IN Yamazaki, Seiji; Murata, Noboru; Honjo, Keishi

PA Central Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C03C017-28

ICS B32B009-00; B32B027-18; C03C017-42

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001172053	A2	20010626	JP 1999-355847	19991215
PRAI	JP 1999-355847		19991215		

AB The substrates are obtained by **coating** with a **compn.**  
 contg. a **water**-absorbing polymer, matrix-forming metal oxide and  
 aroma-releasing substances. Thus, **coating** Orgatix SIC 003 (  
**water**-repellent under **coating compn.**) on the  
 degreased surface of a soda-lime glass panel, drying, and **coating**  
 a 96:2:2 mixt. of S-Lec KX 1 (polyvinyl acetal), Et silicate and  
 .beta.-phenethyl alc. (aroma substance) dissolved in a solvent contg.  
 Ekinen F 1 and **water** (5:5 mixt.) gave an antifogging coated  
 panel with good arom. odor.

ST transparent material glass antifogging arom **coating**; vinyl  
 acetal **water** absorbing polymer antifogging **coating**

IT Polyvinyl acetals

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)

(arom., S-Lec KX 1; antifogging **coating**-finished transparent  
 substrates with arom. odor and method for formation)

IT Antifogging agents

(**coatings**; antifogging **coating**-finished transparent  
 substrates with arom. odor and method for formation)

IT Silsesquioxanes

RL: TEM (Technical or engineered material use); USES (Uses)

(matrix; antifogging **coating**-finished transparent substrates  
 with arom. odor and method for formation)

IT Soda-lime glasses

RL: MSC (Miscellaneous)  
 (substrates; antifogging **coating**-finished transparent  
 substrates with arom. odor and method for formation)

IT 60-12-8, .beta.-Phenethyl alcohol 79-77-6, .beta.-Ionone 121-33-5,  
 Vanillin  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (aroma substance; antifogging **coating**-finished transparent  
 substrates with arom. odor and method for formation)

IT 7631-86-9, Silica, uses 25498-03-7, Methyltrimethoxysilane  
 polymer 153315-80-1, Methyltrimethoxysilane polymer ladder sru  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (matrix; **antifogging coating**-finished transparent  
 substrates with arom. odor and method for formation)

IT 9002-89-5, Poly(vinyl alcohol)  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (**water**-absorbing polymer; antifogging **coating**  
 -finished transparent substrates with arom. odor and method for  
 formation)

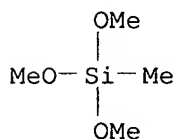
IT 25498-03-7, Methyltrimethoxysilane polymer 153315-80-1,  
 Methyltrimethoxysilane polymer ladder sru  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (matrix; **antifogging coating**-finished transparent  
 substrates with arom. odor and method for formation)

RN 25498-03-7 HCAPLUS  
 CN Silane, trimethoxymethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

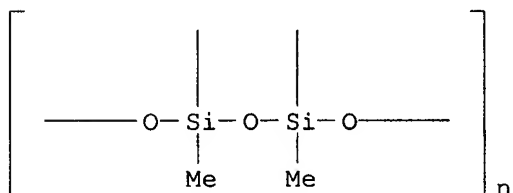
CRN 1185-55-3

CMF C4 H12 O3 Si



RN 153315-80-1 HCAPLUS

CN Poly[(1,3-dimethyl-1,3:1,3-disiloxanediylidene)-1,3-bis(oxy)] (9CI) (CA  
 INDEX NAME)



L32 ANSWER 5 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:444645 HCAPLUS

DN 135:34445

TI Aliphatic hydrocarbon sulfate and silicon compound-based **aqueous**  
 antifogging **coating composition** and method therewith

IN Omori, Yasuhiro; Nakanishi, Hiroomi; Omori, Hironori; Omori, Tsunehiko  
 PA Daimaru Tsusho K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K003-18

ICS C03C017-30

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001164241	A2	20010619	JP 1999-351588	19991210
PRAI	JP 1999-351588		19991210		

AB Title antifogging **coating compn.** mainly comprises aliph. hydrocarbon sulfates and silicon compds. A glass surface was wiped in wet conditions with a **compn.** comprising Na tetradecene sulfonate, octamethylcyclotetrasiloxane, **water**, and sulfuric acid, and wiped again in dry conditions to improve the **coating** homogeneity.

ST aliph hydrocarbon sulfate octamethylcyclotetrasiloxane **aq** antifogging **coating**; sodium tetradecene sulfonate octamethylcyclotetrasiloxane **aq** antifogging **coating**

IT Sulfates, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(aliph. hydrocarbon; prepn. of aliph. hydrocarbon sulfate and silicon compd.-based **aq. antifogging coating compn** .)

IT Antifogging agents

(**coatings**; prepn. of aliph. hydrocarbon sulfate and silicon compd.-based **aq. antifogging coating compn** .)

IT **Coating process**

(prepn. of aliph. hydrocarbon sulfate and silicon compd.-based **aq. antifogging coating compn.**)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(prepn. of aliph. hydrocarbon sulfate and silicon compd.-based **aq. antifogging coating compn.**)

IT Glass, miscellaneous

RL: MSC (Miscellaneous)

(prepn. of aliph. hydrocarbon sulfate and silicon compd.-based **aq. antifogging coating compn.**)

IT Sulfonic acids, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(sodium salts, aliph. hydrocarbon; prepn. of aliph. hydrocarbon sulfate and silicon compd.-based **aq. antifogging coating compn.**)

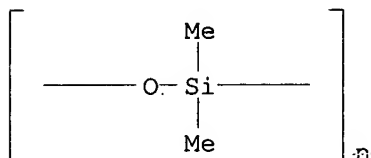
IT 9016-00-6P, Octamethylcyclotetrasiloxane homopolymer, sru

25037-57-4P, Octamethylcyclotetrasiloxane homopolymer

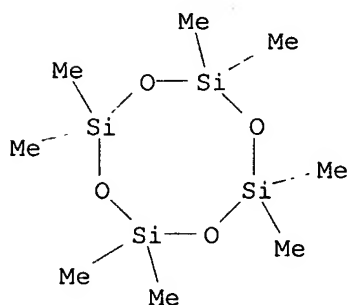
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(prepn. of aliph. hydrocarbon sulfate and silicon compd.-based

aq. antifogging coating compn.)  
 IT 29963-33-5, Sodium tetradecene sulfonate  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (prepn. of aliph. hydrocarbon sulfate and silicon compd.-based  
 aq. antifogging coating compn.)  
 IT 9016-00-6P, Octamethylcyclotetrasiloxane homopolymer, sru  
 25037-57-4P, Octamethylcyclotetrasiloxane homopolymer  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical  
 process); POF (Polymer in formulation); PRP (Properties); TEM (Technical  
 or engineered material use); PREP (Preparation); PROC (Process); USES  
 (Uses)  
 (prepn. of aliph. hydrocarbon sulfate and silicon compd.-based  
 aq. antifogging coating compn.)  
 RN 9016-00-6 HCAPLUS  
 CN Poly[oxy(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



RN 25037-57-4 HCAPLUS  
 CN Cyclotetrasiloxane, octamethyl-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 556-67-2  
 CMF C8 H24 O4 Si4



L32 ANSWER 6 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2001:176841 HCAPLUS  
 DN 134:224113  
 TI Preparation of aqueous photocatalytic hydrophilic silicone  
 coating  
 IN Takahashi, Kazuo; Shimofukikoshi, Mitsuhide; Chikuni, Makoto; Takeda,  
 Koji; Shimai, Akira  
 PA Toto Kiki K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent

LA Japanese

IC ICM C09D183-04

ICS B05D001-36; B05D005-00; C09D005-00; C09D005-32; C09D007-12;  
C09D133-00; C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001064582	A2	20010313	JP 1999-241278	19990827
PRAI	JP 1999-241278		19990827		

AB Title **coating** is prep'd. from a **compn.** contg.  
**aq.** acrylic-modified silicone (e.g., X-41-7001) and photocatalytic particles (e.g., titania TO-240).

ST titania photocatalytic silicone **coating**

IT Polysiloxanes, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(acrylic; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT **Coating** materials  
(antisoiling; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT **Antifogging** agents  
(**coatings**; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT **Coating** materials  
(hydrophilic **coatings**; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT Catalysts  
(photochem.; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT Pigments, nonbiological  
UV stabilizers  
(prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT Polysiloxanes, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT 1306-38-3, Cerium oxide, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(UV absorber; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

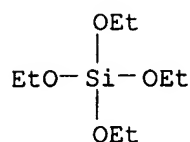
IT 13463-67-7, Titanium oxide, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(pigment; prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT **78-10-4D**, ES 28, hydrolyzates 10193-36-9D, Silicic acid, tetraalkyl derivs., hydrolyzates 272113-71-0, TO 240  
RL: MOA (Modifier or additive use); USES (Uses)  
(prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

IT **78-10-4D**, ES 28, hydrolyzates  
RL: MOA (Modifier or additive use); USES (Uses)  
(prepn. of **aq.** photocatalytic hydrophilic silicone **coating**)

RN 78-10-4 HCAPLUS

CN Silicic acid (H4SiO4), tetraethyl ester (8CI, 9CI) (CA INDEX NAME)



L32 ANSWER 7 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:123984 HCAPLUS

DN 134:179615

TI Photocatalyst-coated polycarbonate plates with excellent yellowing prevention and antifogging properties

IN Sonezaki, Akira; Numata, Tatsuo; Kashiwagi, Hisayuki

PA Nippon Arc K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B32B027-36

ICS B32B009-00; B32B027-00; B32B027-18; C08J007-00; C08J007-04;

C08K003-22; C08K005-07; C08K005-09

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2001047584	A2	20010220	JP 1999-227212	19990811
PRAI	JP 1999-227212		19990811		
OS	MARPAT 134:179615				

AB The plates comprise substrates, primer layers contg. .gtoreq.20% (as nonvolatile component) UV absorbers and org. polymers, silicone hard **coating** layers, and metal oxide-contg. silicone layers in this order. Thus, a polycarbonate plate (Polycarbonate) was coated with a **compn.** (contg. 100 g Me methacrylate-methacryloxypropyltrimethoxysilane copolymer and 50 g 2,4-dihydroxybenzophenone), a **compn.** [contg. Snowtex 0-40 (SiO<sub>2</sub>) 150, methyltrimethoxysilane 200, and Na acetate 2 g], and ST-K 03 (TiO<sub>2</sub>-contg. soln.) to give a test piece showing haze 0.5%, H<sub>2</sub>O contact angle 1.degree., and yellowing index 1.0 after UV irradiation for 3 h.

ST yellowing prevention photocatalyst **coating** polycarbonate plate; silica sodium acetate silicone hard coat; antifogging **coating** titanium oxide; acrylic primer benzophenone UV absorber

IT Antifogging agents

(**coatings**; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT Silsesquioxanes

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hard **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT Transparent materials

UV stabilizers

Yellowing prevention

(photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT Laminated plastics, uses

Polycarbonates, uses

Polysiloxanes, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT Catalysts  
 (photochem.; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT Acrylic polymers, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (primer **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT 131-55-5, 2,2',4,4'-Tetrahydroxybenzophenone 131-56-6, 2,4-Dihydroxybenzophenone  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV absorber; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT 7631-86-9, Silica, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (colloidal, Snowtex O 40, hard **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT 25498-03-7P, Methyltrimethoxysilane homopolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hard **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and **antifogging** properties)

IT 127-09-3, Sodium acetate 21679-46-9, Cobalt(III) acetylacetonate  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (hard **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT 13463-67-7, Titanium oxide, uses 202936-29-6, ST K 03  
 RL: CAT (Catalyst use); USES (Uses)  
 (photocatalyst; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)

IT 26936-30-1, 3-Methacryloxypropyltrimethoxysilane-methyl methacrylate copolymer 183256-84-0, Acryloid A 10S  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (primer **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and **antifogging** properties)

IT 25498-03-7P, Methyltrimethoxysilane homopolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hard **coating**; photocatalyst-coated polycarbonate plates with good yellowing prevention and **antifogging** properties)

RN 25498-03-7 HCAPLUS

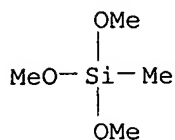
CN Silane, trimethoxymethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

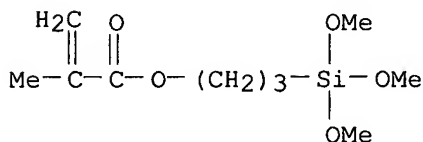
CRN 1185-55-3

CMF C4 H12 O3 Si

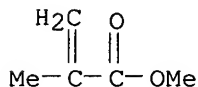




IT 26936-30-1, 3-Methacryloxypropyltrimethoxysilane-methyl methacrylate copolymer  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (primer coating; photocatalyst-coated polycarbonate plates with good yellowing prevention and antifogging properties)  
 RN 26936-30-1 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 2530-85-0  
 CMF C10 H20 O5 Si



CM 2  
 CRN 80-62-6  
 CMF C5 H8 O2



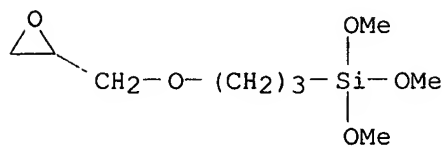
L32 ANSWER 8 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2000:249871 HCAPLUS  
 DN 132:280612  
 TI Antifogging composites coated with moisture-absorbing compositions  
 IN Kokubu, Kazuya; Ketayama, Masayoshi  
 PA Toto Kiki K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L033-08  
 ICS A47G001-00; A47G001-02; C03C017-32; C08K003-18; C08K005-05; C03C017-30  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 57  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000109631	A2	20000418	JP 1998-284639	19981006
PRAI	JP 1998-284639		19981006		
AB	<p>The composites, e.g., bathroom mirror, contain substrates coated with transparent moisture-absorbing hybrid org.-inorg. materials. Alternatively, the <b>coating</b> comps. comprise (1) inorg. alkoxides and/or polymers having OH formed in hydrolysis and polycondensation of the alkoxides, (2) <b>water</b>-absorbing org. polymers, (3) catalysts, and (4) <b>H2O</b>-contg. org. solvents. Thus, an <b>aq.</b> polyacrylic acid-MeOH soln. was mixed with a mixt. prepd. from <b>aq.</b> . HCl, Al isopropoxide, EtOH, Et silicate 40 (tetraethoxysilane tetramer), KBM 403 (.gamma.-glycidoxypolytrimethoxysilane coupling agent), and diethylamine to give a <b>coating compn.</b>, which was applied on a mirror showing good antifogging property.</p>				
ST	<p>antifogging composite moisture absorbing <b>coating</b> mirror; bathroom mirror <b>coating</b> antifogging composite; ceramer antifogging hybrid <b>coating</b> moisture absorbing; hybrid material moisture absorbing <b>coating</b> antifogging; alkoxide hydrolysis polycondensation antifogging composite <b>coating</b>; <b>water</b> absorbing polymer antifogging composite <b>coating</b>; polyacrylic acid antifogging hybrid <b>coating</b>; aluminum isopropoxide hydrolysis antifogging hybrid <b>coating</b>; tetraethoxysilane tetramer hydrolysis antifogging hybrid <b>coating</b>; glycidoxypolytrimethoxysilane hydrolysis antifogging hybrid <b>coating</b></p>				
IT	<p>Ceramers Composites Mirrors (antifogging composites coated with moisture-absorbing hybrid org.-inorg. materials)</p>				
IT	<p>Buildings (bathrooms, mirror; antifogging composites coated with moisture-absorbing hybrid org.-inorg. materials)</p>				
IT	<p>Antifogging agents (<b>coatings</b>; antifogging composites coated with moisture-absorbing hybrid org.-inorg. materials)</p>				
IT	<p><b>Coating</b> materials (transparent; antifogging composites coated with moisture-absorbing hybrid org.-inorg. materials)</p>				
IT	<p><b>263846-15-7P</b>, Acrylic acid-aluminum isopropoxide-ethyl silicate 40-KBM 403 copolymer <b>264142-27-0P</b>, Aluminum isopropoxide-Ethyl silicate 40-KBM 403-vinyl alc. copolymer <b>264142-28-1P</b>, Acrylic acid-aluminum isopropoxide-Ethyl silicate 40-KBM 403-vinyl alc. copolymer RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (<b>antifogging</b> composites coated with moisture-absorbing hybrid org.-inorg. materials)</p>				
IT	<p><b>263846-15-7P</b>, Acrylic acid-aluminum isopropoxide-ethyl silicate 40-KBM 403 copolymer <b>264142-27-0P</b>, Aluminum isopropoxide-Ethyl silicate 40-KBM 403-vinyl alc. copolymer <b>264142-28-1P</b>, Acrylic acid-aluminum isopropoxide-Ethyl silicate 40-KBM 403-vinyl alc. copolymer RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (<b>antifogging</b> composites coated with moisture-absorbing hybrid org.-inorg. materials)</p>				
RN	<p><b>263846-15-7</b> HCAPLUS</p>				
CN	<p>2-Propenoic acid, polymer with 2-propanol aluminum salt, silicic acid ethyl ester and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)</p>				

CM 1

CRN 2530-83-8

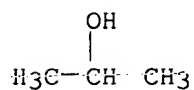
CMF C9 H20 O5 Si



CM 2

CRN 555-31-7

CMF C3 H8 O . 1/3 Al

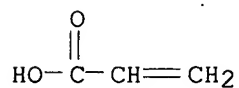


1/3 Al

CM 3

CRN 79-10-7

CMF C3 H4 O2



CM 4

CRN 11099-06-2

CMF C2 H6 O . x Unspecified

CM 5

CRN 1343-98-2

CMF Unspecified

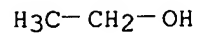
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

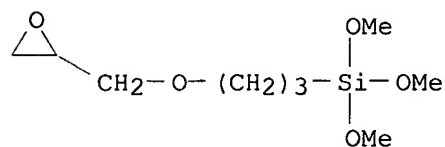
CM 6

CRN 64-17-5

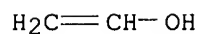
CMF C2 H6 O



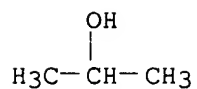
RN 264142-27-0 HCAPLUS  
 CN Silicic acid, ethyl ester, polymer with ethenol, 2-propanol aluminum salt  
 and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 2530-83-8  
 CMF C9 H20 O5 Si



CM 2  
 CRN 557-75-5  
 CMF C2 H4 O



CM 3  
 CRN 555-31-7  
 CMF C3 H8 O . 1/3 Al



1/3 Al

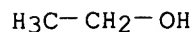
CM 4  
 CRN 11099-06-2  
 CMF C2 H6 O . x Unspecified  
 CM 5  
 CRN 1343-98-2  
 CMF Unspecified  
 CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 6

CRN 64-17-5

CMF .C2 H6 O



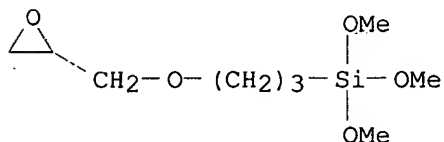
RN 264142-28-1 HCAPLUS

CN 2-Propenoic acid, polymer with ethenol, 2-propanol aluminum salt, silicic acid ethyl ester and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI)  
(CA INDEX NAME)

CM 1

CRN 2530-83-8

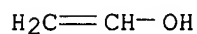
CMF C9 H20 O5 Si



CM 2

CRN 557-75-5

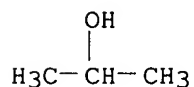
CMF C2 H4 O



CM 3

CRN 555-31-7

CMF C3 H8 O . 1/3 Al

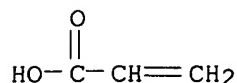


1/3 Al

CM 4

CRN 79-10-7

CMF C3 H4 O2



CM 5

CRN 11099-06-2

CMF C2 H6 O . x Unspecified

CM 6

CRN 1343-98-2

CMF Unspecified

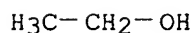
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 7

CRN 64-17-5

CMF C2 H6 O



L32 ANSWER 9 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:672925 HCAPLUS

DN 131:300642

TI Inorganic **coating compositions** and hydrophilic  
inorganic **coating** films

IN Takahama, Koichi; Inoue, Minoru; Ikenaga, Junko; Nakamoto, Shoichi

PA Matsushita Electric Works, Ltd., Japan

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C09D001-00

ICS C09D005-00; C09D183-04; B05D007-24

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9952983	A1	19991021	WO 1999-JP1934	19990412
	W: CA, CN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 989166	A1	20000329	EP 1999-916046	19990412
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	JP 1998-98668		19980410		
	WO 1999-JP1934		19990412		
AB	The compns. comprise, as major components, a photooxidizable silicone resin having photooxidizable groups and a photosemiconductive material. Examples of the photooxidizable groups include C>3 alkyl, cycloalkyl,				

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

aralkyl, aryl, alkenyl, halohydrocarbyl groups, groups having a tertiary hydrogen atom (>CH-), groups having a C-C double bond and a C-H bond in the .alpha.-position with respect to the double bond, and groups having a branching point. The hydrophilic inorg. **coating** films formed from the inorg. **coating compn.** have high sensitivity to UV, rapidly become hydrophilic upon exposure to weak UV, and are useful for prevention of fogging and soiling on hard surface. Thus, mixing methyltrimethoxysilane 100 with phenyltrimethoxysilane 30, tetraethoxysilane 10, Oscal 1432 (silica) 90, i-PrOH 100 and **water** 90 parts at 60.degree. for 5 h gave a soln. contg. siloxane polymer with Mw 1200-1800, which was combined with 20 phr Queen Titanic 11-1020 G (titania sol) to give a **coating compn.** (A).

**Coating** the A on a glass surface, drying at room temp. for 0.5 h and baking at 150.degree. for 1 h gave a hydrophilic coat film.

- ST hydrophilic **coating** fogging prevention siloxane silicate;  
alkoxysilane hydrolytic polymer **coating** titania antisoiling
- IT **Coating materials**  
(antisoiling; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT Antifogging agents  
(**coatings**; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT **Coating materials**  
(hydrophilic **coatings**; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT Catalysts  
(photochem., metal oxides; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT Oxides (inorganic), uses  
RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)  
(photosemiconductive substance; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT Polysiloxanes, uses  
Polysiloxanes, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silicate-; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT Oxidation, photochemical  
Photoconductors  
(siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT Glass, miscellaneous  
RL: MSC (Miscellaneous)  
(siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT 7631-86-9, Oscal 1432, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(colloidal; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)
- IT 1306-19-0, Cadmium oxide, uses 1307-96-6, Cobalt oxide, uses

1308-38-9, Chromium oxide, uses 1309-37-1, Iron oxide (Fe2O3), uses 1309-60-0, Lead oxide 1310-53-8, Germanium oxide, uses 1313-13-9, Manganese oxide, uses 1313-27-5, Molybdenum oxide, uses 1313-96-8, Niobium oxide 1313-99-1, Nickel oxide (NiO), uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1314-35-8, Tungsten oxide, uses 1314-61-0, Tantalum oxide 1314-62-1, Vanadium oxide, uses 1317-38-0, Copper oxide, uses 1332-29-2, Tin oxide 11113-84-1, Ruthenium oxide 12624-27-0, Rhenium oxide 12680-36-3, Rhodium oxide 13463-67-7, Tipaque ST 01, uses 219918-83-9, Queen Titanic 11-1020G  
 RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)

(photosemiconductive substance; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)

IT 143150-06-5P, .gamma.-Glycidoxypropyltrimethoxysilane-methyltrimethoxysilane-tetraethoxysilane copolymer 176036-26-3P, Methyltrimethoxysilane-phenyltrimethoxysilane-tetraethoxysilane copolymer 202577-73-9P, .gamma.-Acryloxypropyltrimethoxysilane-methyltrimethoxysilane-tetraethoxysilane copolymer 247104-05-8P, 3-Acryloxypropyltrimethoxysilane-methyltriisopropoxysilane-methyltrimethoxysilane copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of **fogging** and soiling on hard surface)

IT 7429-90-5, Aluminum, miscellaneous

RL: MSC (Miscellaneous)

(substrate; siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of fogging and soiling on hard surface)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Nippon Soda Co, Ltd; WO 97/00134 A1 HCAPLUS
- (2) Nippon Soda Co, Ltd; JP 09-310039 A 1997 HCAPLUS
- (3) Seiko Epson Corp; JP 63-275682 A 1988 HCAPLUS
- (4) Shin-Etsu Chemical Co, Ltd; JP 10-279886 A 1998 HCAPLUS
- (5) Toto Ltd; US 5755867 A HCAPLUS
- (6) Toto Ltd; WO 96/29375 A1 HCAPLUS
- (7) Toto Ltd; JP 09-225387 A 1997 HCAPLUS
- (8) Toto Ltd; JP 09-227829 A 1997 HCAPLUS

IT 143150-06-5P, .gamma.-Glycidoxypropyltrimethoxysilane-methyltrimethoxysilane-tetraethoxysilane copolymer 176036-26-3P, Methyltrimethoxysilane-phenyltrimethoxysilane-tetraethoxysilane copolymer 202577-73-9P, .gamma.-Acryloxypropyltrimethoxysilane-methyltrimethoxysilane-tetraethoxysilane copolymer 247104-05-8P, 3-Acryloxypropyltrimethoxysilane-methyltriisopropoxysilane-methyltrimethoxysilane copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(siloxane-based inorg. **coating** compns. contg. photosemiconductive substances for prevention of **fogging** and soiling on hard surface)

RN 143150-06-5 HCAPLUS

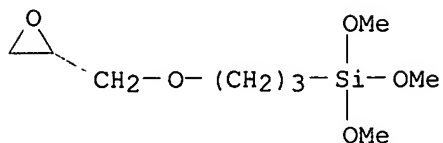
CN Silicic acid (H4SiO4), tetraethyl ester, polymer with trimethoxymethylsilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 2530-83-8



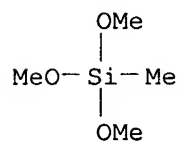
CMF C9 H20 O5 Si



CM 2

CRN 1185-55-3

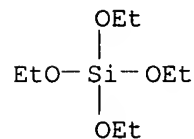
CMF C4 H12 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



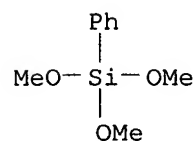
RN 176036-26-3 HCAPLUS

CN Silicic acid (H4SiO4), tetraethyl ester, polymer with trimethoxymethylsilane and trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

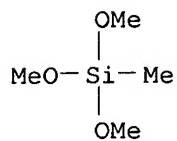
CMF C9 H14 O3 Si



CM 2

CRN 1185-55-3

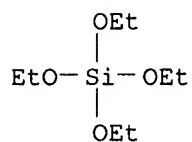
CMF C4 H12 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



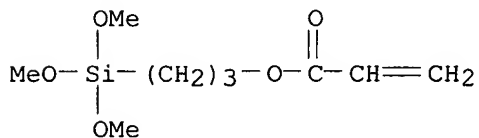
RN 202577-73-9 HCAPLUS

CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester, polymer with silicic acid (H4SiO4) tetraethyl ester and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 4369-14-6

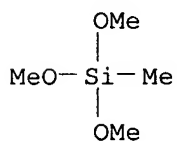
CMF C9 H18 O5 Si



CM 2

CRN 1185-55-3

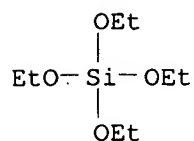
CMF C4 H12 O3 Si



CM 3

CRN 78-10-4

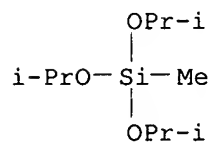
CMF C8 H20 O4 Si



RN 247104-05-8 HCAPLUS  
 CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester, polymer with methyltris(1-methylethoxy)silane and trimethoxymethylsilane (9CI) (CA INDEX NAME)

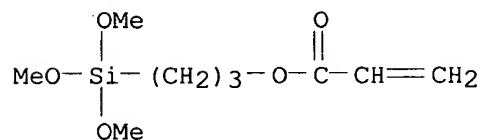
CM 1

CRN 5581-67-9  
 CMF C10 H24 O3 Si



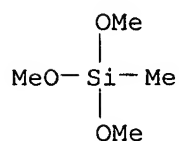
CM 2

CRN 4369-14-6  
 CMF C9 H18 O5 Si



CM 3

CRN 1185-55-3  
 CMF C4 H12 O3 Si



L32 ANSWER 10 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1999:451071 HCAPLUS  
 DN 131:117549  
 TI Hydrolyzable silyl-containing vinyl resin-based antifogging

**aqueous compositions**

IN Yamagishi, Hiroshi; Makimura, Akira; Iwase, Keiko; Momohira, Satoru  
 PA Mitsubishi Kagaku MKV K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11193375	A2	19990721	JP 1997-320995	19971121
PRAI	JP 1997-295336		19971028		
AB	Title comps., with good storage stability, comprise <b>water</b> and/or <b>water</b> -sol. solvents, inorg. colloidal sols, and vinyl resins prep. from hydrolyzable silyl-contg. vinyl compd. (oligomers), amineimido vinyl compds., OH-contg. vinyl compds., ionic vinyl compds., and C1-5 alkyl (meth)acrylates. A <b>compn.</b> comprising 3:1 <b>water</b> /EtOH blend 95, colloidal SiO <sub>2</sub> 3, and acrylic acid-Bu acrylate-1,1-dimethyl-1-(2-hydroxypropyl)amine methacrylimide-2-hydroxyethyl acrylate-Me methacrylate- $\gamma$ -methacryloxypropyltrimethoxysilane copolymer NH <sub>3</sub> salt 2 parts showed good storage stability at 50.degree. for 1 mo and was spread on a various plastic film or glass plate to form transparent thin film with good adhesion and fogging prevention over 4 yr.				
ST	antifogging acrylic polysiloxane <b>coating</b> plastic; glass antifogging acrylic polysiloxane <b>coating</b> ; storage stability <b>aq</b> antifogging acrylic polysiloxane <b>coating</b>				
IT	Polysiloxanes, uses RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic, salts; inorg. colloidal sol-contg. antifogging acrylic polysiloxane <b>coatings</b> with storage stability for plastics or glass)				
IT	Antifogging agents ( <b>coatings</b> ; inorg. colloidal sol-contg. acrylic polysiloxane <b>coatings</b> with storage stability for plastics or glass)				
IT	Oxides (inorganic), uses RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses) (colloidal; inorg. colloidal sol-contg. antifogging acrylic polysiloxane <b>coatings</b> with storage stability for plastics or glass)				
IT	Acrylic polymers, miscellaneous Fluoropolymers, miscellaneous Polyesters, miscellaneous Polyolefins RL: MSC (Miscellaneous) (films; inorg. colloidal sol-contg. antifogging acrylic polysiloxane <b>coatings</b> with storage stability for plastics or glass)				
IT	Plastic films (inorg. colloidal sol-contg. antifogging acrylic polysiloxane <b>coatings</b> with storage stability for plastics or glass)				
IT	Plate glass RL: MSC (Miscellaneous) (inorg. colloidal sol-contg. antifogging acrylic polysiloxane <b>coatings</b> with storage stability for plastics or glass)				
IT	Sols (inorg.; inorg. colloidal sol-contg. antifogging acrylic polysiloxane				

**coatings** with storage stability for plastics or glass)

IT Acrylic polymers, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polysiloxane-, salts; inorg. colloidal sol-contg. antifogging acrylic  
 polysiloxane **coatings** with storage stability for plastics or  
 glass)

IT 1344-28-1, Aluminum oxide (Al<sub>2</sub>O<sub>3</sub>), uses 7631-86-9, Silica, uses  
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES  
 (Uses)  
 (colloidal; inorg. colloidal sol-contg. antifogging acrylic  
 polysiloxane **coatings** with storage stability for plastics or  
 glass)

IT 9002-88-4, Polyethylene 9011-14-7, PMMA 25038-59-9, miscellaneous  
 RL: MSC (Miscellaneous)  
 (films; inorg. colloidal sol-contg. antifogging acrylic polysiloxane  
**coatings** with storage stability for plastics or glass)

IT 225940-32-9P, Acrylic acid-butyl acrylate-1,1-dimethyl-1-(2-  
 hydroxypropyl)amine methacrylimide-2-hydroxyethyl acrylate-methyl  
 methacrylate-.gamma.-methacryloxypropyltrimethoxysilane copolymer ammonium  
 salt 225940-33-0P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (inorg. colloidal sol-contg. **antifogging** acrylic polysiloxane  
**coatings** with storage stability for plastics or glass)

IT 225940-32-9P, Acrylic acid-butyl acrylate-1,1-dimethyl-1-(2-  
 hydroxypropyl)amine methacrylimide-2-hydroxyethyl acrylate-methyl  
 methacrylate-.gamma.-methacryloxypropyltrimethoxysilane copolymer ammonium  
 salt 225940-33-0P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (inorg. colloidal sol-contg. **antifogging** acrylic polysiloxane  
**coatings** with storage stability for plastics or glass)

RN 225940-32-9 HCAPLUS

CN Hydrazinium, 1-(2-hydroxypropyl)-1,1-dimethyl-2-(2-methyl-1-oxo-2-  
 propenyl)-, inner salt, polymer with butyl 2-propenoate, 2-hydroxyethyl  
 2-propenoate, methyl 2-methyl-2-propenoate, 2-propenoic acid and  
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, ammonium salt (9CI) (CA  
 INDEX NAME)

CM 1

CRN 157459-27-3

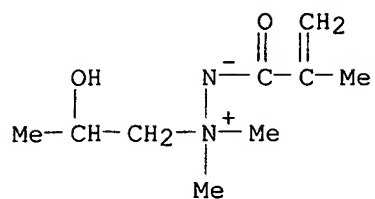
CMF (C10 H20 O5 Si . C9 H18 N2 O2 . C7 H12 O2 . C5 H8 O3 . C5 H8 O2 . C3  
 H4 O2)x

CCI PMS

CM 2

CRN 17341-40-1

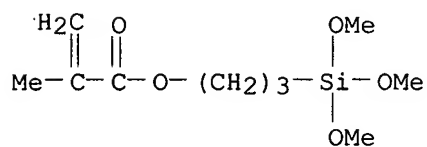
CMF C9 H18 N2 O2



CM 3

CRN 2530-85-0

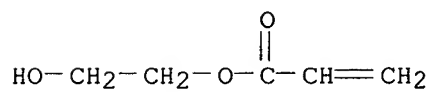
CMF C10 H20 O5 Si



CM 4

CRN 818-61-1

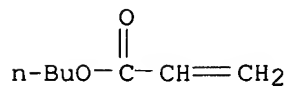
CMF C5 H8 O3



CM 5

CRN 141-32-2

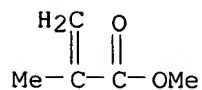
CMF C7 H12 O2



CM 6

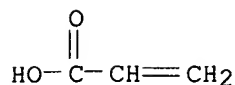
CRN 80-62-6

CMF C5 H8 O2



CM 7

CRN 79-10-7  
CMF C3 H4 O2



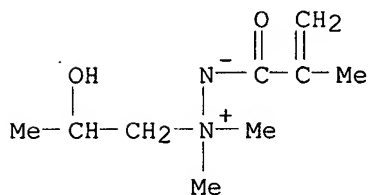
RN 225940-33-0 HCAPLUS  
CN Hydrazinium, 1-(2-hydroxypropyl)-1,1-dimethyl-2-(2-methyl-1-oxo-2-propenyl)-, inner salt, polymer with butyl 2-methyl-2-propenoate, butyl 2-propenoate, 2-hydroxyethyl 2-propenoate, methyl 2-methyl-2-propenoate, 2-propenoic acid and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 157459-30-8  
CMF (C10 H20 O5 Si . C9 H18 N2 O2 . C8 H14 O2 . C7 H12 O2 . C5 H8 O3 . C5 H8 O2 . C3 H4 O2) x  
CCI PMS

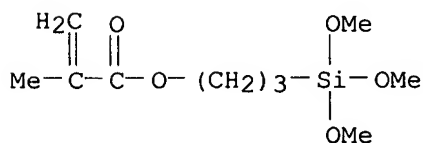
CM 2

CRN 17341-40-1  
CMF C9 H18 N2 O2



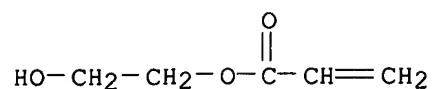
CM 3

CRN 2530-85-0  
CMF C10 H20 O5 Si



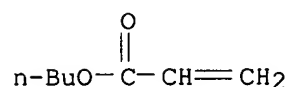
CM 4

CRN 818-61-1  
CMF C5 H8 O3



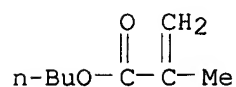
CM 5

CRN 141-32-2  
CMF C7 H12 O2



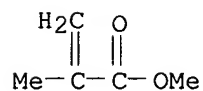
CM 6

CRN 97-88-1  
CMF C8 H14 O2



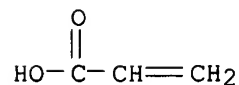
CM 7

CRN 80-62-6  
CMF C5 H8 O2



CM 8

CRN 79-10-7  
CMF C3 H4 O2



L32 ANSWER 11 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:421260 HCAPLUS

DN 131:75041

TI **Water-**repellent and antifogging fluoro polysiloxane-based

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290



coating compositions and coated substrates  
 IN Yoneda, Takashige; Furukawa, Yutaka  
 PA Asahi Glass Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09K003-18  
 CC 42-10 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

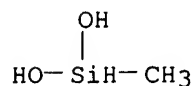
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11181412	A2	19990706	JP 1997-355585	19971224
PRAI	JP 1997-355585		19971224		
AB	The compns. useful for protecting automobile windshields, windows, mirrors, indicator panels, etc., comprise fluoro siloxane polymers having organosiloxane units bearing org. groups with interrupted fluoroalkylene groups, and organosiloxane units having hydrolyzable silylalkyl groups, or their hydrolyzed products. Thus, hydrosilylating a H siloxane, i.e., Me3SiO(SiHMeO)15(SiMe2O)35SiMe3 with C8F17CH2CH:CH2 and CH2:CHSiCl3 gave graft product, 3 g of which was mixed with 97 g BuOAc to give a <b>water-repellent antifogging coating</b> .				
ST	antifogging <b>water repellent coating</b> fluoro polysiloxane; allylperfluorooctane grafting hydrogen siloxane <b>water repellent</b> ; vinylsilyl chloride grafting hydrogen siloxane <b>water repellent</b>				
IT	Windows Windshields (automotive; <b>water-repellent</b> and antifogging fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				
IT	Antifogging agents ( <b>coatings</b> ; <b>water-repellent</b> and antifogging fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				
IT	Mirrors ( <b>water-repellent</b> and antifogging fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				
IT	Glass, miscellaneous RL: MSC (Miscellaneous) ( <b>water-repellent</b> and antifogging fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				
IT	Coating materials ( <b>water-resistant</b> ; <b>water-repellent</b> and antifogging fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				
IT	75-94-5DP, Trichlorovinylsilane, reaction products with H siloxane and allylperfluorooctane 61589-64-8DP, reaction products with H siloxane and trichlorovinylsilane 156118-35-3DP, Dimethylsilanediol-methylsilanediol copolymer, trimethylsilyl-terminated, reaction products with allylperfluorooctane and trichlorovinylsilane RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) ( <b>water-repellent</b> and <b>antifogging</b> fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				
IT	156118-35-3DP, Dimethylsilanediol-methylsilanediol copolymer, trimethylsilyl-terminated, reaction products with allylperfluorooctane and trichlorovinylsilane RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) ( <b>water-repellent</b> and <b>antifogging</b> fluoro polysiloxane-based <b>coating</b> compns. and coated substrates)				

RN 156118-35-3 HCAPLUS  
 CN Silanediol, dimethyl-, polymer with methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 43641-90-3

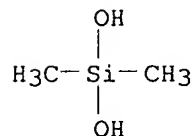
CMF C H6 O2 Si



CM 2

CRN 1066-42-8

CMF C2 H8 O2 Si



L32 ANSWER 12 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:345581 HCAPLUS

DN 131:6669

TI Agricultural fluoropolymer films having antifogging **coatings**

IN Yamagishi, Hiroshi; Makimura, Akira; Iwase, Keiko

PA Mitsubishi Kagaku MKV K. K., Japan

SO Jpn. Kokai Tokyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM A01G009-14

ICS A01G013-02; B32B027-30; C09D004-02

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 19, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 11146732	A2	19990602	JP 1997-314907	19971117
PRAI	JP 1997-314907		19971117		

AB The films contain antifogging **coatings** mainly contg. inorg. colloidal sols, **water** and/or **water**-sol. solvents, and polymers of (a) hydrolyzable silyl group-contg. vinyl monomers and/or oligomers, (b) vinyl monomers bearing amine-imide groups, (c) OH-contg. vinyl monomers, (d) vinyl monomers with ionic groups or groups capable of forming ionic groups, and (e) C1-5 alkyl (meth)acrylates on .gtoreq.1 side of the films. Thus, a tetrafluoroethylene-ethylene-perfluorobutylethylene copolymer film was coated with a soln. of a **compn.** of 2 parts (solids) 15:3:10:7:40:25 .gamma.-methacryloxypropyltrimethoxysilane-1,1-dimethyl-1-(2-hydroxypropyl)amine methacrylimide-2-hydroxyethyl acrylate-acrylic acid-Me methacrylate-Bu acrylate copolymer **aq.**

- emulsion and 3 parts colloidal silica in 3:1 mixt. of water and EtOH and dried at 90.degree. for 1 min to give a coated film. Then, the film was subjected to outdoor exposure (as greenhouse) for 4 yr to show retention of the initial transparency and antifogging effect.
- ST agricultural fluoropolymer film antifogging **coating**; durable antifogging **coating** fluoropolymer; methacryloylpropyltrimethoxysialne dimethylhydroxpropylamine methacrylimide copolymer **coating**; hydroxyethyl acrylate acrylic acid copolymer **coating**; methyl methacrylate butyl acrylate copolymer **coating**; colloidal silica acrylic polymer **coating** antifogging; fluoroethylene ethylene perfluorobutylethylene copolymer film
- IT Polysiloxanes, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT Antifogging agents  
(**coatings**; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT Greenhouses  
(durable antifogging **coatings** for fluoropolymer agricultural films)
- IT Silica gel, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(durable antifogging **coatings** for fluoropolymer agricultural films)
- IT Fluoropolymers, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(durable antifogging **coatings** for fluoropolymer agricultural films)
- IT Light stabilizers  
(hindered amines; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT Amines, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(hindered; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT **Coating** materials  
(transparent; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT **Coating** materials  
(water-thinned; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT 225940-32-9P 225940-33-0P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(**coatings**; durable **antifogging coatings** for fluoropolymer agricultural films)
- IT 7631-86-9, Colloidal silica, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(colloidal; durable antifogging **coatings** for fluoropolymer agricultural films)
- IT 91788-83-9, Tetrakis(1,2,2,6,6-pentamethyl-4-piperidyl) 1,2,3,4-butanetetracarboxylate  
RL: MOA (Modifier or additive use); USES (Uses)  
(durable antifogging **coatings** for fluoropolymer agricultural films)
- IT 25038-71-5P, Ethylene-tetrafluoroethylene copolymer 68258-85-5P, Ethylene-perfluorobutylethylene-tetrafluoroethylene copolymer

69288-57-9P, Ethylene-perfluorohexylethylene-tetrafluoroethylene copolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (films; durable antifogging coatings for fluoropolymer agricultural films)

IT 1344-28-1, Aluminum oxide (Al<sub>2</sub>O<sub>3</sub>), uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (sol; durable antifogging coatings for fluoropolymer agricultural films)

IT 225940-32-9P 225940-33-0P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (coatings; durable antifogging coatings for fluoropolymer agricultural films)

RN 225940-32-9 HCAPLUS

CN Hydrazinium, 1-(2-hydroxypropyl)-1,1-dimethyl-2-(2-methyl-1-oxo-2-propenyl)-, inner salt, polymer with butyl 2-propenoate, 2-hydroxyethyl 2-propenoate, methyl 2-methyl-2-propenoate, 2-propenoic acid and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 157459-27-3

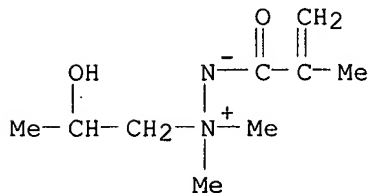
CMF (C<sub>10</sub> H<sub>20</sub> O<sub>5</sub> Si . C<sub>9</sub> H<sub>18</sub> N<sub>2</sub> O<sub>2</sub> . C<sub>7</sub> H<sub>12</sub> O<sub>2</sub> . C<sub>5</sub> H<sub>8</sub> O<sub>3</sub> . C<sub>5</sub> H<sub>8</sub> O<sub>2</sub> . C<sub>3</sub> H<sub>4</sub> O<sub>2</sub>)x

CCI PMS

CM 2

CRN 17341-40-1

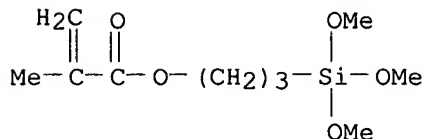
CMF C<sub>9</sub> H<sub>18</sub> N<sub>2</sub> O<sub>2</sub>



CM 3

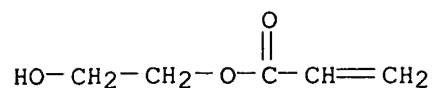
CRN 2530-85-0

CMF C<sub>10</sub> H<sub>20</sub> O<sub>5</sub> Si



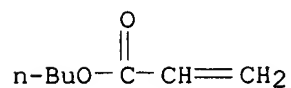
CM 4

CRN 818-61-1  
CMF C5 H8 O3



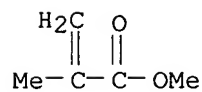
CM 5

CRN 141-32-2  
CMF C7 H12 O2



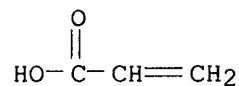
CM 6

CRN 80-62-6  
CMF C5 H8 O2



CM 7

CRN 79-10-7  
CMF C3 H4 O2



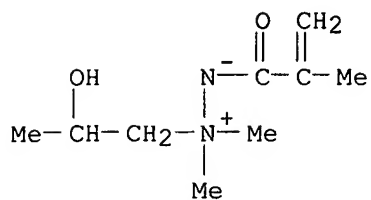
RN 225940-33-0 HCAPLUS  
CN Hydrazinium, 1-(2-hydroxypropyl)-1,1-dimethyl-2-(2-methyl-1-oxo-2-propenyl)-, inner salt, polymer with butyl 2-methyl-2-propenoate, butyl 2-propenoate, 2-hydroxyethyl 2-propenoate, methyl 2-methyl-2-propenoate, 2-propenoic acid and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 157459-30-8  
CMF (C10 H20 O5 Si . C9 H18 N2 O2 . C8 H14 O2 . C7 H12 O2 . C5 H8 O3 . C5 H8 O2 . C3 H4 O2)x  
CCI PMS

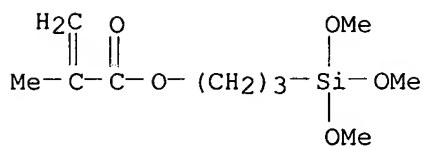
CM 2

CRN 17341-40-1  
CMF C9 H18 N2 O2



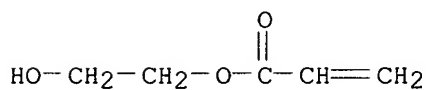
CM 3

CRN 2530-85-0  
CMF C10 H20 O5 Si



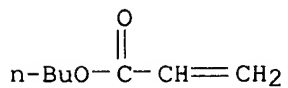
CM 4

CRN 818-61-1  
CMF C5 H8 O3



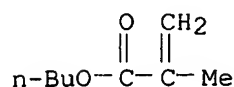
CM 5

CRN 141-32-2  
CMF C7 H12 O2



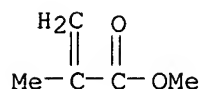
CM 6

CRN 97-88-1  
CMF C8 H14 O2



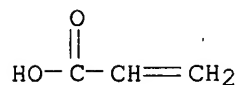
CM 7

CRN 80-62-6  
CMF C5 H8 O2



CM 8

CRN 79-10-7  
CMF C3 H4 O2



L32 ANSWER 13 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:208818 HCAPLUS

DN 130:283426

TI Antifogging coating compositions and articles coated therewith

IN Mitani, Motohiro; Kamenosono, Kouji; Shudo, Kenjiro; Matsuyama, Kazuo; Ishihara, Kazuhiko; Nakahayashi, Nobuo

PA Nippon Oil and Fats Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K003-18

CC 42-7 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11080709	A2	19990326	JP 1997-247303	19970911
PRAI	JP 1997-247303		19970911		

AB Title comps. comprise antifogging agents of polymers having side chains represented by OP(:O)(O-)O(CH<sub>2</sub>)<sub>n</sub>N+R<sub>1</sub>R<sub>2</sub>R<sub>3</sub> wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> = independently H or C1-4 alkyl and n = 2-4. Thus, 50 mmol Bu methacrylate and 50 mmol 2-(methacryloxy)ethyl 2-(trimethylammonium)ethyl phosphate was polymd. to give an antifogging agent, dild. with ethanol, applied on a poly(Me methacrylate) plate, dried, exposed to 80.degree. satd. water vapor for 3 min, and the untreated surface of the plate was cooled at 10.degree. giving no water droplet on the treated surface.

ST antifogging coating compn methacryloxy ammonium

phosphate butyl methacrylate copolymer; polymethyl methacrylate plate  
antifogging coating substrate

IT Glass, miscellaneous  
RL: MSC (Miscellaneous)  
(coating substrates; antifogging coating compns.  
and articles coated therewith)

IT Antifogging agents  
(coatings; antifogging coating compns. and articles  
coated therewith)

IT Quaternary ammonium compounds, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polymers; antifogging coating compns. and articles coated  
therewith)

IT 125275-25-4P 134483-35-5P 144514-07-8P 193684-52-5P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(antifogging coating compns. and articles coated  
therewith)

IT 9011-14-7, Poly(methyl methacrylate)  
RL: MSC (Miscellaneous)  
(coating substrate; antifogging coating compns. and  
articles coated therewith)

IT 193684-52-5P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(antifogging coating compns. and articles coated  
therewith)

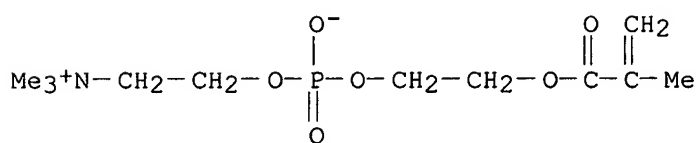
RN 193684-52-5 HCAPLUS

CN 3,5,8-Trioxa-4-phosphaundec-10-en-1-aminium, 4-hydroxy-N,N,N,10-  
tetramethyl-9-oxo-, inner salt, 4-oxide, polymer with 3-  
(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 67881-98-5

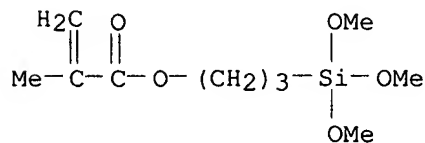
CMF C11 H22 N O6 P



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si





L32 ANSWER 14 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:97326 HCAPLUS

DN 130:197678

TI Agricultural fluoropolymer films with good transparency and long-lasting antifogging property

IN Yamakishi, Hiroshi; Makimura, Akira; Iwase, Keiko; Momodaira, Satoru

PA Mitsubishi Kagaku MKV K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B32B027-30

ICS A01G009-14; A01G013-02; B05D007-24; B32B027-18

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 19, 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11034250	A2	19990209	JP 1997-198279	19970724
PRAI	JP 1997-198279		19970724		

AB Title films are obtained by forming **coating** films from antifogging agent compns. contg. (a) hydrolyzable silyl group-having vinyl copolymers, (b) inorg. colloid sols (solid wt. ratio of (b)/(a) = 0.5-9), and (c) **water** and/or **water-sol.** solvents on one or both sides of fluoropolymer films. Thus, a 46.3:0.7:53 (mol) ethylene-perfluorobutylethylene-tetrafluoroethylene copolymer film was treated with corona discharge, coated with a **compn.** contg. a polymer soln. (nonvolatile matter 60%; prepd. from Me methacrylate 120, Bu acrylate 75, 2-hydroxyethyl methacrylate 30, N,N-dimethylaminoethyl methacrylate 30, and .gamma.-methacryloxypropyltrimethoxysilane 45 parts) 2, colloidal silica (av. particle size 40 nm) 3, Epiclon 860 (epoxy compd.) 0.1, and tetraethylenepentamine 0.05 part, and dried to give a coated film with good transparency and long-lasting antifogging property.

ST agricultural fluoropolymer film transparency; antifogging **coating** agricultural fluoropolymer film; vinyl copolymer **coating** agricultural film; inorg colloid vinyl copolymer **coating**

IT Transparent films

(agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT Crosslinking agents

(antifogging **coatings** contg.; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT Fluoropolymers, uses

RL: AGR (Agricultural use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(base film; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT Antifogging agents

(**coatings**; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT 7631-86-9, Colloidal silica, uses

RL: MOA (Modifier or additive use); USES (Uses)

(antifogging **coatings** contg.; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT **180592-46-5P**, Butyl acrylate-N,N-dimethylaminoethyl methacrylate-Epiclon 860-2-hydroxyethyl methacrylate-(.gamma.-methacryloxypropyl)trimethoxysilane-methyl methacrylate-

tetraethylenepentamine copolymer 180592-47-6P, Butyl methacrylate;N,N-dimethylaminoethyl methacrylate;Epiclon 860;2-hydroxyethyl methacrylate;(.gamma.-methacryloxypropyl)trimethoxyethoxysilane-methyl methacrylate-tetraethylenepentamine copolymer 220698-76-0P, Dibutyl fumarate-N,N-dimethylaminoethyl methacrylate-(.gamma.-glycidoxypropyl)trimethoxysilane-methyl methacrylate-styrene copolymer  
 RL: AGR (Agricultural use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
 (antifogging coatings; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT 25038-71-5P, Ethylene-tetrafluoroethylene copolymer 68258-85-5P, Ethylene-perfluorobutylethylene-tetrafluoroethylene copolymer 69288-57-9P, Ethylene-perfluorohexylethylene-tetrafluoroethylene copolymer  
 RL: AGR (Agricultural use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
 (base film; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT 1344-28-1, Alumina, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (colloidal, antifogging coatings contg.; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

IT 64-17-5, Ethanol, uses 7732-18-5, Water, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent, antifogging coatings contg.; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

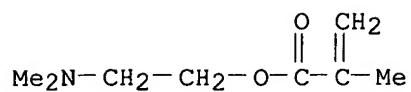
IT 180592-46-5P, Butyl acrylate-N,N-dimethylaminoethyl methacrylate-Epiclon 860-2-hydroxyethyl methacrylate-(.gamma.-methacryloxypropyl)trimethoxysilane-methyl methacrylate-tetraethylenepentamine copolymer 180592-47-6P, Butyl methacrylate;N,N-dimethylaminoethyl methacrylate;Epiclon 860;2-hydroxyethyl methacrylate;(.gamma.-methacryloxypropyl)trimethoxyethoxysilane-methyl methacrylate-tetraethylenepentamine copolymer 220698-76-0P, Dibutyl fumarate-N,N-dimethylaminoethyl methacrylate-(.gamma.-glycidoxypropyl)trimethoxysilane-methyl methacrylate-styrene copolymer  
 RL: AGR (Agricultural use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
 (antifogging coatings; agricultural fluoropolymer films with good transparency and long-lasting antifogging property)

RN 180592-46-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine, butyl 2-propenoate, (chloromethyl)oxirane, 2-hydroxyethyl 2-methyl-2-propenoate, 4,4'-(1-methylethylidene)bis[phenol], methyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

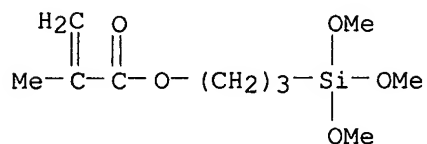
CM 1

CRN 2867-47-2  
CMF C8 H15 N O2



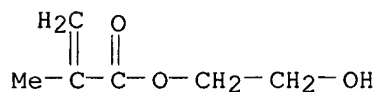
CM 2

CRN .2530-85-0  
CMF C10 H20 O5 Si



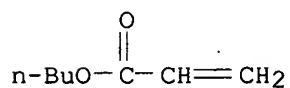
CM 3

CRN 868-77-9  
CMF C6 H10 O3



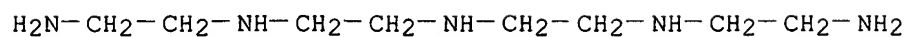
CM 4

CRN 141-32-2  
CMF C7 H12 O2



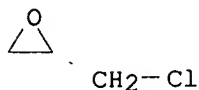
CM 5

CRN 112-57-2  
CMF C8 H23 N5



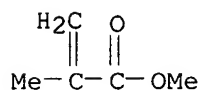
CM 6

CRN 106-89-8  
CMF C3 H5 Cl O



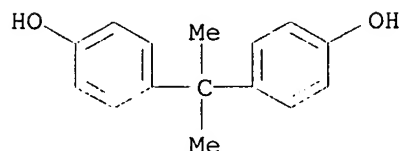
CM 7

CRN 80-62-6  
CMF C5 H8 O2



CM 8

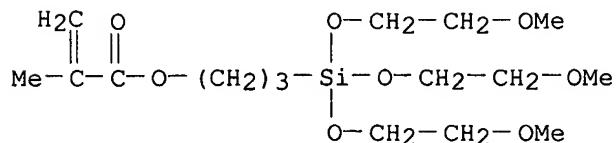
CRN 80-05-7  
CMF C15 H16 O2



RN 180592-47-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine,  
(chloromethyl)oxirane, 2-(dimethylamino)ethyl 2-methyl-2-propenoate,  
2-hydroxyethyl 2-methyl-2-propenoate, 4,4'-(1-  
methylethylidene)bis[phenol], methyl 2-methyl-2-propenoate and  
3-[tris(2-methoxyethoxy)silyl]propyl 2-methyl-2-propenoate (9CI) (CA  
INDEX NAME)

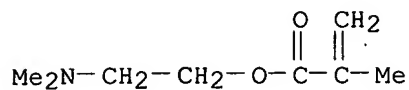
CM 1

CRN 57069-48-4  
CMF C16 H32 O8 Si



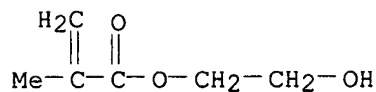
CM 2

CRN 2867-47-2  
CMF C8 H15 N O2



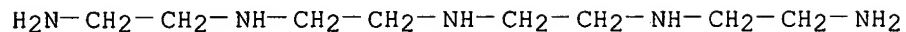
CM 3

CRN 868-77-9  
CMF C6 H10 O3



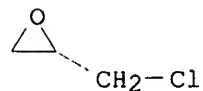
CM 4

CRN 112-57-2  
CMF C8 H23 N5



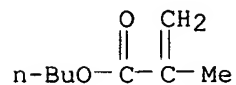
CM 5

CRN 106-89-8  
CMF C3 H5 Cl O



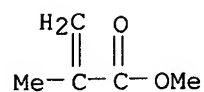
CM 6

CRN 97-88-1  
CMF C8 H14 O2



CM 7

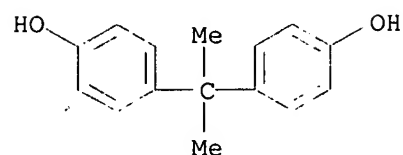
CRN 80-62-6  
CMF C5 H8 O2



CM 8

CRN 80-05-7

CMF C15 H16 O2



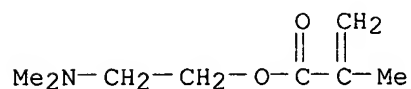
RN 220698-76-0 HCAPLUS

CN 2-Butenedioic acid (2E)-, dibutyl ester, polymer with 2-(dimethylamino)ethyl 2-methyl-2-propenoate, ethenylbenzene, methyl 2-methyl-2-propenoate and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 2867-47-2

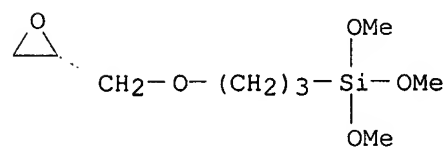
CMF C8 H15 N O2



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si

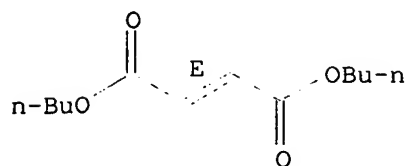


CM 3

CRN 105-75-9

CMF C12 H20 O4

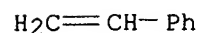
Double bond geometry as shown.



CM 4

CRN 100-42-5

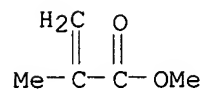
CMF C8 H8



CM 5

CRN 80-62-6

CMF C5 H8 O2



L32 ANSWER 15 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:70222 HCAPLUS

DN 130:169626

TI Hydrophilic coating compositions with good resistance to fogging, scratch and water

IN Ishisaki, Koji; Morio, Kazuhiko

PA Asahi Denka Kogyo K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D201-02

ICS C09D005-00

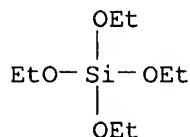
CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

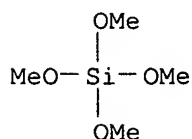
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 11021512	A2	19990126	JP 1997-176026	19970701
PRAI	JP 1997-176026		19970701		

AB The comps. useful for use on the surfaces of glass and plastics, comprise (A) polymers bearing sulfonic acid, phosphoric acid or/and carboxylic acid groups, and (B) Si dioxide 3-dimensional structure or its precursor. Thus, adding EtOH 58 to a mixt. of polystyrenesulfonic acid Na salt 1.0 in water 75, mixing with Si(OEt)<sub>4</sub> 17.4 and 2N HCl .apprx.1 g (to pH 3) at room temp. for 1 h, coating the resulting hydrolyzed soln. on a glass surface and drying at 150.degree. gave a coat film with hardness 9H and 9H, water contact angles 5.degree. and 15.degree., and antifogging rating good and good initially and after dipping in water for 24 h, resp.

- ST **water scratch resistance silica coating compn**  
**; polystyrenesulfonic acid silica coating antifogging;**  
**hydrophilic coating polystyrenesulfonic acid silica; silicate**  
**polystyrenesulfonic acid coating antifogging**  
**antiscratching**
- IT **Coating materials**  
**Coating materials**  
 (abrasion- and **water-resistant; hydrophilic coating**  
 compns. with good resistance to **fogging, scratch and**  
**water and scratch)**
- IT **Antifogging agents**  
 (**coatings; hydrophilic coating** compns. with good  
 resistance to **fogging, scratch and water and**  
**scratch)**
- IT 25549-84-2, Poly(sodium acrylate) 62744-35-8, Poly(sodium  
 styrenesulfonate) 65917-17-1, Poly(potassium styrenesulfonate)  
 86468-69-1, Poly(lithium styrenesulfonate) 87737-11-9, Poly(lithium  
 acrylate) 220475-84-3, Mono(2-methacryloyloxyethyl) acid phosphate  
 monosodium salt homopolymer 220475-86-5, Mono(2-methacryloyloxyethyl)  
 acid phosphate monolithium salt homopolymer  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
 (hydrophilic **coating** compns. with good resistance to  
**fogging, scratch and water and scratch)**
- IT 7631-86-9, Silica, uses  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (hydrophilic **coating** compns. with good resistance to  
**fogging, scratch and water and scratch)**
- IT **78-10-4, Tetraethyl silicate 681-84-5**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silica precursor; hydrophilic **coating** compns. with good  
 resistance to **fogging, scratch and water and**  
**scratch)**
- IT **78-10-4, Tetraethyl silicate 681-84-5**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silica precursor; hydrophilic **coating** compns. with good  
 resistance to **fogging, scratch and water and**  
**scratch)**
- RN 78-10-4 HCAPLUS
- CN Silicic acid (H4SiO4), tetraethyl ester (8CI, 9CI) (CA INDEX NAME)



- RN 681-84-5 HCAPLUS
- CN Silicic acid (H4SiO4), tetramethyl ester (8CI, 9CI) (CA INDEX NAME)





L32 ANSWER 16 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:27904 HCAPLUS

DN 130:96964

TI Color **coating compositions** having excellent **water**, alkali, and weathering resistance glass or metal articles, and giving colored bottles free from fog even when applied at high humidity

IN Minami, Tsutomu; Nakazumi, Hiroyuki; Sakashita, Yoshiaki; Ishii, Kazuhisa; Kanazawa, Hidefumi; Ueda, Mikio; Funato, Masayuki

PA Teikoku Chemical Industries Co., Ltd., Japan; Asahi Beer Pax Co., Ltd.

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C09D183-04

ICS C03C017-30; B05D007-00

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9859010	A1	19981230	WO 1997-JP2994	19970827
	W: US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 11071552	A2	19990316	JP 1997-206298	19970731
	EP 992555	A1	20000412	EP 1997-937818	19970827
	R: DE, FR, IT				
	US 6262187	B1	20010717	US 2000-446265	20000113
PRAI	JP 1997-164225	A	19970620		
	WO 1997-JP2994	W	19970827		
AB	The color <b>coating compn.</b> comprises a sol-gel fluid prepd. by polycondensating a phenyltrialkoxysilane or an oligomer thereof, at least one member selected from among acrylic polyols, polyester polyols, polyether polyols and lower alkylpolyols (or a combination of such a member with a polyisocyanate resin), and an org. colorant. A <b>compn.</b> from phenyltrimethoxysilane condensate sol-gel soln., Cu phthalocyanine, Retan PG80 acrylic polyol in isopropanol was flow-coated on a soda lime glass bottle, dried at 60.degree. and baked at 250.degree..				
ST	silsesquioxane <b>coating</b> glass bottle acrylic polyol				
IT	Silsesquioxanes				
	RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)				
	(acrylic; color <b>coating</b> compns. having excellent <b>water</b> , alkali, and weathering resistance glass or metal articles, and giving colored bottles free from fog even when applied at high humidity)				
IT	Bottles				
	(color <b>coating</b> compns. having excellent <b>water</b> , alkali, and weathering resistance glass or metal articles, and giving colored bottles free from fog even when applied at high humidity)				
IT	Coating materials				
	Coating materials				
	(colored, Retan PG 80 White; color <b>coating</b> compns. having excellent <b>water</b> , alkali, and weathering resistance glass or metal articles, and giving colored bottles free from fog even when applied at high humidity)				
IT	Silsesquioxanes				
	Silsesquioxanes				
	RL: POF (Polymer in formulation); TEM (Technical or engineered material				

use); USES (Uses)  
 (polyester-; color coating compns. having excellent  
 water, alkali, and weathering resistance glass or metal  
 articles, and giving colored bottles free from fog even when applied at  
 high humidity)

IT Polyesters, uses  
 Polyesters, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
 (silsesquioxane-; color coating compns. having excellent  
 water, alkali, and weathering resistance glass or metal  
 articles, and giving colored bottles free from fog even when applied at  
 high humidity)

IT 51350-55-1, Phenyltrimethoxysilane homopolymer, sru  
 89885-26-7, Phenyltrimethoxysilane homopolymer 212557-18-1,  
 Burnock D6-520  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
 (color coating compns. having excellent water,  
 alkali, and weathering resistance glass or metal articles, and giving  
 colored bottles free from fog even when applied at high  
 humidity)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

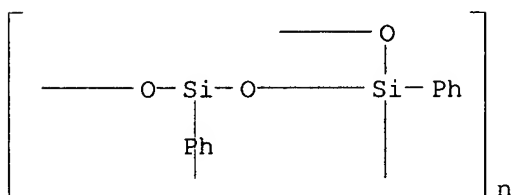
(1) Asahi Beer Pax Co Ltd; JP 09239311 A 1997 HCAPLUS

(2) Toshiba Corp; JP 05178623 A 1993 HCAPLUS

IT 51350-55-1, Phenyltrimethoxysilane homopolymer, sru  
 89885-26-7, Phenyltrimethoxysilane homopolymer  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
 (color coating compns. having excellent water,  
 alkali, and weathering resistance glass or metal articles, and giving  
 colored bottles free from fog even when applied at high  
 humidity)

RN 51350-55-1 HCAPLUS

CN Poly[(1,3-diphenyl-1,3:1,3-disiloxanediylidene)-1,3-bis(oxy)] (9CI) (CA  
 INDEX NAME)



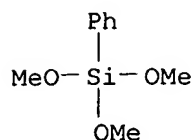
RN 89885-26-7 HCAPLUS

CN Silane, trimethoxyphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

CMF C9 H14 O3 Si



L32 ANSWER 17 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1998:89315 HCAPLUS

DN 128:142096

TI Photocatalytic hydrophilic coating compositions  
 forming antifogging, antisoiling transparent film and rapid water  
 evaporation, and aerosol compositions and coating  
 therewith, and hydrophilized products

IN Hayakawa, Makoto; Kanno, Mitsuyoshi

PA Toto Ltd., Japan; Hayakawa, Makoto; Kanno, Mitsuyoshi

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C09K003-18

ICS B01J035-02; B05D005-00; B05D007-00; B05D007-24; C09D005-00

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9803607	A1	19980129	WO 1997-JP2467	19970716
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
JP 10081840	A2	19980331	JP 1996-356277	19961225
CA 2260803	AA	19980129	CA 1997-2260803	19970716
AU 9734613	A1	19980210	AU 1997-34613	19970716
AU 720317	B2	20000525		
EP 913447	A1	19990506	EP 1997-930810	19970716
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9710382	A	19990817	BR 1997-10382	19970716
CN 1230207	A	19990929	CN 1997-197799	19970716
JP 2000095969	A2	20000404	JP 1999-131927	19970716
JP 3077199	B2	20000814	JP 1998-501461	19970716
TW 467943	B	20011211	TW 1997-86110219	19970718
US 6165256	A	20001226	US 1999-232494	19990115
PRAI JP 1996-221641	A	19960719		
JP 1996-266554	A	19960831		
JP 1996-285796	A	19960920		
JP 1996-355953	A	19961224		
JP 1997-13048	A	19970108		
JP 1997-55533	A	19970224		
JP 1997-93232	A	19970326		
JP 1998-501461	A3	19970716		
WO 1997-JP2467	W	19970716		

AB The title compns. comprise (a) photocatalyst particles made of a metal

oxide, (b) .gtoreq.1 of particulate silica, precursors of silicone films, and precursors of silica films, and (c) a solvent, with the overall solids content being 0.01-5%. Titania sol ST-K01 (from anatase 8, alkyl silicate 2; aq. nitric acid 54.8, MeOH 28, and PrOH 7.2 parts) was dild. 10-1000:1 with EtOH to solids content 0.01-1%, coated on soda lime glass plate and dried at room temp. for 18 h to obtain **coatings** showing good abrasion and fogging resistance after UV irradiation.

ST titania photocatalyst antifogging **coating** silicate; silica **coating** antifogging photocatalyst titania

IT Silicates, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(alkyl; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT Surfactants

(anionic; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT **Coating** materials

(antisoiling; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT Antifogging agents

(**coatings**; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); USES (Uses)  
(di-Me, 3-hydroxypropyl Me, ethoxylated, KF 945; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT **Coating** materials

(hydrophilic **coatings**; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT Surfactants

(nonionic; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT Aerosols

Antimicrobial agents

Automobiles

Leveling agents

(photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

IT Alcohols, uses

RL: NUU (Other use, unclassified); USES (Uses)  
(photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)

- IT Polysiloxanes, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT Catalysts  
 (photochem.; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT Polysiloxanes, uses  
 Polysiloxanes, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyoxyalkylene-, KF 351; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT Polyoxyalkylenes, uses  
 Polyoxyalkylenes, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polysiloxane-, KF 351; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT Coating materials  
 (transparent; photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT 7440-04-2D, Osmium, compds., biological studies 7440-05-3D, Palladium, compds., biological studies 7440-06-4D, Platinum, compds., biological studies 7440-16-6D, Rhodium, compds., biological studies 7440-18-8D, Ruthenium, compds., biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT 1304-76-3, Bismuth trioxide, uses 1309-37-1, Ferric oxide, uses 1314-13-2, Zinc oxide, uses 1314-35-8, Tungsten oxide, uses 1317-70-0, Anatase 1317-80-2, Rutile 1332-29-2, Tin oxide 12060-59-2, Strontium titanate  
 RL: CAT (Catalyst use); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT 577-11-7, Rapisol A 80 7758-98-7, Copper sulfate, uses 26836-46-4, Sorbitol monocaprylate 156310-28-0, KF 945 202352-96-3, PENEROL NP 95  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming antifogging, antisoiling transparent film and rapid **water** evapn., and aerosol compns. and **coating** therewith, and hydrophilized products)
- IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 111-76-2, Butyl Cellosolve 123-42-2, Diacetone alcohol

30136-13-1, Propylene glycol monopropyl ether  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming  
 antifogging, antisoiling transparent film and rapid **water**  
 evapn., and aerosol compns. and **coating** therewith, and  
 hydrophilized products)

IT 7631-86-9, Silica, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming  
 antifogging, antisoiling transparent film and rapid **water**  
 evapn., and aerosol compns. and **coating** therewith, and  
 hydrophilized products)

IT 156310-28-0, KF 945  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (photocatalytic hydrophilic **coating** compns. forming  
**antifogging**, antisoiling transparent film and rapid  
**water** evapn., and aerosol compns. and **coating**  
 therewith, and hydrophilized products)

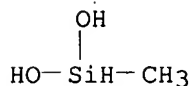
RN 156310-28-0 HCAPLUS

CN Silanediol, dimethyl-, polymer with methylsilanediol and oxirane, graft  
 (9CI) (CA INDEX NAME)

CM 1

CRN 43641-90-3

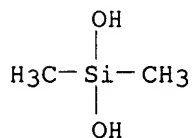
CMF C H6 O2 Si



CM 2

CRN 1066-42-8

CMF C2 H8 O2 Si



CM 3

CRN 75-21-8

CMF C2 H4 O



AN 1996:534630 HCAPLUS  
 DN 125:171004  
 TI Antifogging **aqueous compositions**  
 IN Momohira, Satoru; Kinoshita, Kazuya; Fujiwara, Katsuhiko; Oohayashi, Atsushi  
 PA Mitsubishi Kagaku Emu Kee Bui, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09K003-18  
 ICS C08K003-22; C08K003-30; C08L033-00; C08L035-00; C08L041-00  
 CC 42-7 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 08151567	A2	19960611	JP 1994-295079	19941129
PRAI	JP 1994-295079		19941129		
AB	Title compns. contain 0.4-7.0:1 inorg. colloidal sols and resins (from 1-50:50-99 hydrolyzable silyl-contg. unsatd. compds. and .alpha., .beta.-ethyleneic unsatd. compds.) in <b>aq. media or water</b> . An <b>aq. compn.</b> contg. alumina sol, Bu acrylate-N,N-dimethylaminoethyl methacrylate-2-hydroxyethyl methacrylate-3-methacryloxypropyltrimethoxysilane-Me methacrylate copolymer, and TAZM showed good adhesion to plastic or glass articles and formed films with good transparency and antifogging initially and after 1 yr.				
ST	antifogging acrylic siloxane <b>coating</b> inorg sol; adhesion antifogging acrylic siloxane <b>coating</b> ; transparency antifogging acrylic siloxane <b>coating</b>				
IT	Siloxanes and Silicones, uses RL: TEM (Technical or engineered material use); USES (Uses) (acrylic, colloidal inorg. sol-contg. <b>aq. acrylic siloxanes</b> as antifogging/transparent <b>coatings</b> )				
IT	Antifogging agents ( <b>coatings</b> , colloidal inorg. sol-contg. <b>aq. acrylic siloxane compns.</b> )				
IT	Acrylic polymers, uses RL: TEM (Technical or engineered material use); USES (Uses) (siloxane-, colloidal inorg. sol-contg. <b>aq. acrylic siloxanes</b> as antifogging/transparent <b>coatings</b> )				
IT	<b>95627-27-3P 95627-28-4P 180592-46-5P 180592-47-6P</b> RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (colloidal inorg. sol-contg. <b>aq. acrylic siloxanes</b> as <b>antifogging/transparent coatings</b> )				
IT	1344-28-1, Alumina, uses 7631-86-9, Silica, uses RL: MOA (Modifier or additive use); USES (Uses) (colloidal; colloidal inorg. sol-contg. <b>aq. acrylic siloxanes</b> as antifogging/transparent <b>coatings</b> )				
IT	52234-82-9, TAZM RL: TEM (Technical or engineered material use); USES (Uses) (hardener; colloidal inorg. sol-contg. <b>aq. acrylic siloxanes</b> as antifogging/transparent <b>coatings</b> )				
IT	<b>95627-27-3P 95627-28-4P 180592-46-5P 180592-47-6P</b> RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (colloidal inorg. sol-contg. <b>aq. acrylic siloxanes</b> as				

antifogging/transparent coatings)

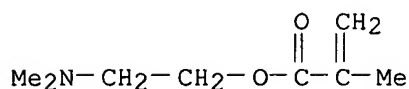
RN 95627-27-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with butyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2867-47-2

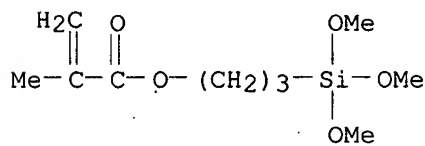
CMF C8 H15 N O2



CM 2

CRN 2530-85-0

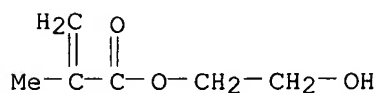
CMF C10 H20 O5 Si



CM 3

CRN 868-77-9

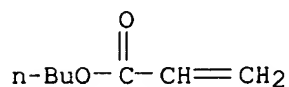
CMF C6 H10 O3



CM 4

CRN 141-32-2

CMF C7 H12 O2

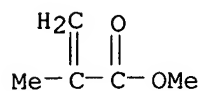


CM 5

CRN 80-62-6



CMF C5 H8 O2



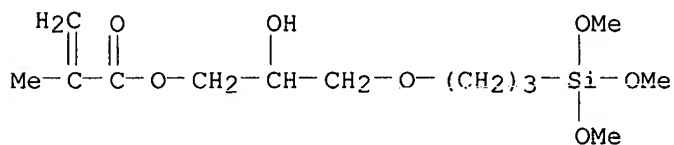
RN 95627-28-4 HCAPLUS

CN 2-Butenedioic acid (2E)-, dibutyl ester, polymer with 2-(dimethylamino)ethyl 2-methyl-2-propenoate, ethenylbenzene, 2-hydroxy-3-[3-(trimethoxysilyl)propoxy]propyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 59214-63-0

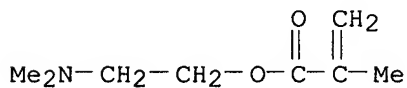
CMF C13 H26 O7 Si



CM 2

CRN 2867-47-2

CMF C8 H15 N O2

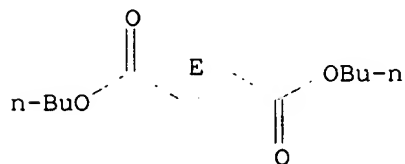


CM 3

CRN 105-75-9

CMF C12 H20 O4

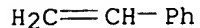
Double bond geometry as shown.



CM 4

CRN 100-42-5

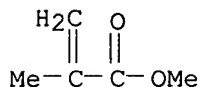
CMF C8 H8



CM 5

CRN 80-62-6

CMF C5 H8 O2



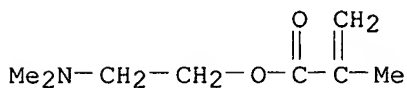
RN 180592-46-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with  
N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine,  
butyl 2-propenoate, (chloromethyl)oxirane, 2-hydroxyethyl  
2-methyl-2-propenoate, 4,4'-(1-methylethylidene)bis[phenol], methyl  
2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

CRN 2867-47-2

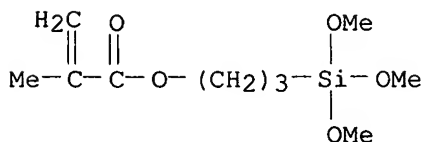
CMF C8 H15 N O2



CM 2

CRN 2530-85-0

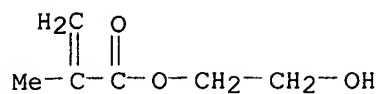
CMF C10 H20 O5 Si



CM 3

CRN 868-77-9

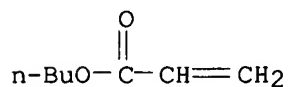
CMF C6 H10 O3



CM 4

CRN 141-32-2

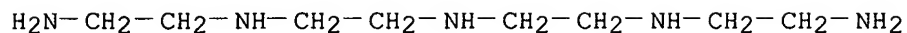
CMF C7 H12 O2



CM 5

CRN 112-57-2

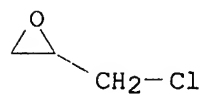
CMF C8 H23 N5



CM 6

CRN 106-89-8

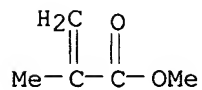
CMF C3 H5 Cl O



CM 7

CRN 80-62-6

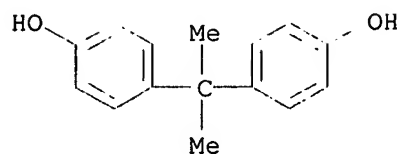
CMF C5 H8 O2



CM 8

CRN 80-05-7

CMF C15 H16 O2



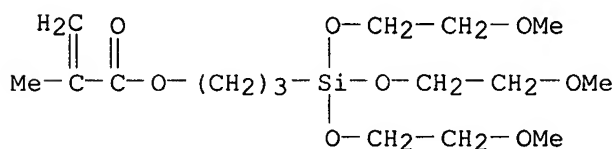
RN 180592-47-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
 N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine,  
 (chloromethyl)oxirane, 2-(dimethylamino)ethyl 2-methyl-2-propenoate,  
 2-hydroxyethyl 2-methyl-2-propenoate, 4,4'-(1-  
 methylethylidene)bis[phenol], methyl 2-methyl-2-propenoate and  
 3-[tris(2-methoxyethoxy)silyl]propyl 2-methyl-2-propenoate (9CI) (CA  
 INDEX NAME)

CM 1

CRN 57069-48-4

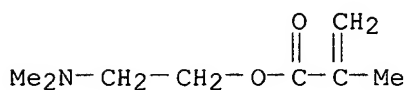
CMF C16 H32 O8 Si



CM 2

CRN 2867-47-2

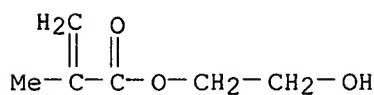
CMF C8 H15 N O2



CM 3

CRN 868-77-9

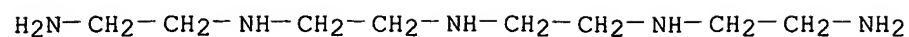
CMF C6 H10 O3



CM 4

CRN 112-57-2

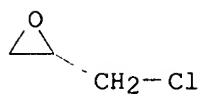
CMF C8 H23 N5



CM 5

CRN 106-89-8

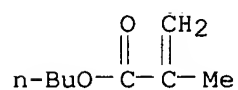
CMF C3 H5 Cl O



CM 6

CRN 97-88-1

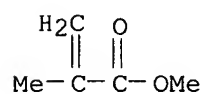
CMF C8 H14 O2



CM 7

CRN 80-62-6

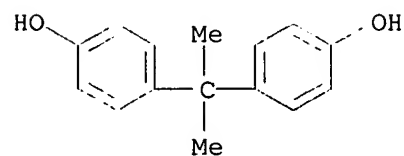
CMF C5 H8 O2



CM 8

CRN 80-05-7

CMF C15 H16 O2



L32 ANSWER 19 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1996:410867 HCAPLUS

DN 125:65439

TI Anti-fogging coating composition, anti-fogging coated article and its manufacture

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

IN Yamamoto, Tohru; Yoshida, Shigeo; Ikari, Hatsumi  
 PA Japan  
 SO Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C03C017-00  
 ICS C09K003-18; C09D171-02; C08K005-057; C08K005-54  
 CC 57-1 (Ceramics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 716051	A2	19960612	EP 1995-308930	19951208
	EP 716051	A3	19970108		
	EP 716051	B1	20020925		
	R: DE, FR, GB				
	JP 08231944	A2	19960910	JP 1995-294591	19951113
	JP 2898589	B2	19990602		
	US 5854341	A	19981229	US 1995-569843	19951208
PRAI	JP 1994-305210	A	19941208		
	JP 1995-294591	A	19951113		

AB The anti-fogging **coating compn.** contains (a) an inorg. alkoxide and/or a hydroxyl group-contg. polymer formed therefrom by hydrolysis and polycondensation, the inorg. alkoxide being represented by the formula  $M(OR)_n(X)a-n$ , where M is an inorg. element selected from Si, Al, Ti, Zr, Ca, Fe, V, Sn, Li, Be, B and P; R is an alkyl group; X is an alkyl group with or without functional groups or a halogen atom; a is a no. representing the valence of M; and n is an integer from 1 to a; (b) a polyalkylene oxide, a wt. ratio of the polyalkylene oxide to the inorg. alkoxide and/or the hydroxyl group-contg. polymer being 100/1-100/150; (c) .ltoreq.0.5 wt. parts of an acid catalyst per 100 parts by wt. of (a); (d) 0.01-1 wt. part of a base catalyst per 100 parts by wt. of (a) + (b); (e) 100-5,000 wt. parts of an org. solvent per 100 parts by wt. of (a) + (b) + (d); and (f) a stoichiometric amt. or more of **water** for the hydrolysis of the inorg. alkoxide.

ST antifogging **coating compn** metal alkoxide

IT **Coating materials**

(anti-fogging **coating compn.** and articles therefrom)

IT **Coating process**

(sol-gel, anti-fogging **coating compn.** and articles therefrom)

IT 103-83-3, N,N-Dimethylbenzylamine 555-31-7, Aluminum isopropoxide 1310-65-2, Lithium hydroxide 2530-83-8, .gamma.-Glycidoxypropyltrimethoxysilane 7647-01-0, Hydrochloric acid, uses 9003-01-4, Polyacrylic acid 25322-68-3, Polyethylene oxide 25322-69-4, Polypropylene glycol

RL: MOA (Modifier or additive use); USES (Uses)

(**compn.** contg.; in **anti-fogging coating compn.** and articles therefrom)

IT 11099-06-2, Ethylsilicate

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**compn.** contg.; in **anti-fogging coating compn.** and articles therefrom)

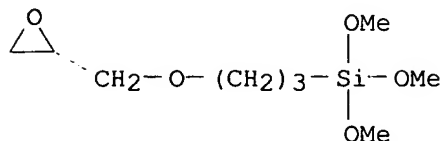
IT 2530-83-8, .gamma.-Glycidoxypropyltrimethoxysilane

RL: MOA (Modifier or additive use); USES (Uses)

(**compn.** contg.; in **anti-fogging coating compn.** and articles therefrom)

RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



IT 11099-06-2, Ethylsilicate  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)

(compn. contg.; in anti-fogging  
 coating compn. and articles therefrom)

RN 11099-06-2 HCAPLUS

CN Silicic acid, ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 1343-98-2  
 CMF Unspecified  
 CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 64-17-5  
 CMF C2 H6 O

H<sub>3</sub>C-CH<sub>2</sub>-OH

L32 ANSWER 20 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1996:369167 HCAPLUS

DN 125:35934

TI Manufacture of coated articles with excellent fogging resistance and good hot water resistance

IN Eguchi, Juji; Nomura, Shigeki

PA Sekisui Chemical Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08J007-04

ICS B32B009-00; B32B027-00; B32B027-16

CC 42-2 (Coatings, Inks, and Related Products)

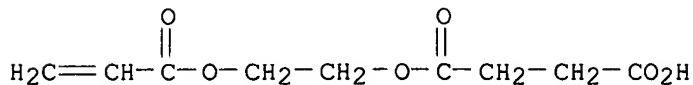
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08059865	A2	19960305	JP 1994-193149	19940817
	JP 3340249	B2	20021105		
PRAI	JP 1994-193149		19940817		

OS MARPAT 125:35934

AB The process comprises the steps of coating plastic or inorg.  
 substrates with compns. comprising epoxy group-contg. silane coupling  
 agents X1SiR1R2R3 (R1-3 = lower alkyl, lower alkoxy; .gtoreq.1 R1-3 =

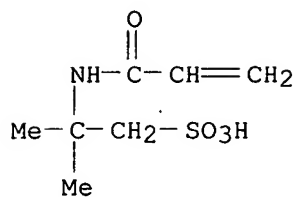
- lower alkoxy; X1 = lower alkyl having terminal epoxy group), compds. having .gtoreq.1 (meth)acryloyl group and .gtoreq.1 CO<sub>2</sub>H group, and photoinitiators, heat curing the **coating**, contacting the **coating** with compns. mainly contg. hydrophilic monomers having .gtoreq.1 (meth)acryloyl group, and irradiating the **coating** with active light rays. A **compn.** contg. KBM 403 5, EtOH 4, H<sub>2</sub>O 2, HOA-MPL [2-(acryloyloxy)ethyl phthalate] 5.5, Irgacure 184 0.5, and Kayacure EPA 0.2 g was applied onto a glass plate and cured at 120.degree. to form a base coat, which was immersed in an aq. EtOH soln. contg. TBAS-Q (2-acrylamido-2-methylpropanesulfonic acid) and Na<sub>2</sub>CO<sub>3</sub>, irradiated with UV rays, and washed to give a coated product showing good antifogging property even after 24 h in hot **water**.
- ST antifogging **coating** epoxysilane acrylic polymer; **water** resistance antifogging **coating** epoxysilane acrylic; acryloyloxyethyl phthalate copolymer antifogging **coating**
- IT **Coating materials**  
(epoxysilane-(meth)acryloyl group-contg. compd. copolymers; with good fogging resistance and hot **water** resistance)
- IT **Coating process**  
(with compns. contg. epoxysilanes and (meth)acryloyl group-contg. compds.; for manuf. of coated articles with excellent fogging resistance and good hot **water** resistance)
- IT Antifogging agents  
(**coatings**, epoxysilane-(meth)acryloyl group-contg. compd. copolymers; with good hot **water** resistance)
- IT 177799-25-6 177799-26-7 177799-27-8  
177799-28-9 177799-91-6  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(**coating**; manuf. with excellent **fogging** resistance and good hot **water** resistance)
- IT 177799-25-6 177799-26-7 177799-27-8  
177799-28-9 177799-91-6  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(**coating**; manuf. with excellent **fogging** resistance and good hot **water** resistance)
- RN 177799-25-6 HCAPLUS
- CN Butanedioic acid, mono[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]silane (9CI) (CA INDEX NAME)
- CM 1
- CRN 50940-49-3
- CMF C9 H12 O6



CM 2

CRN 15214-89-8  
CMF C7 H13 N O4 S

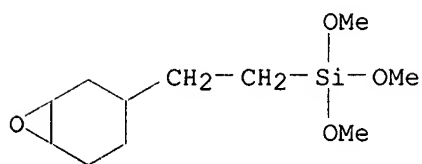




CM 3

CRN 3388-04-3

CMF C11 H22 O4 Si



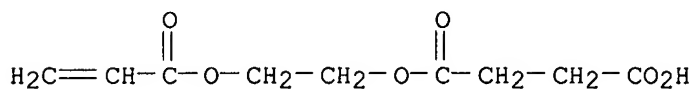
RN 177799-26-7 HCAPLUS

CN Butanedioic acid, mono[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 50940-49-3

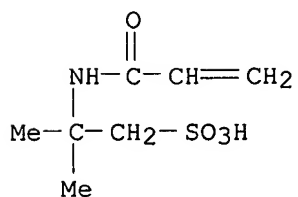
CMF C9 H12 O6



CM 2

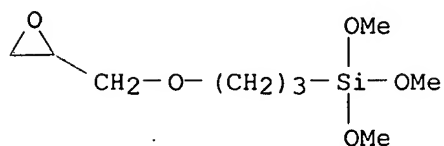
CRN 15214-89-8

CMF C7 H13 N O4 S



CM 3

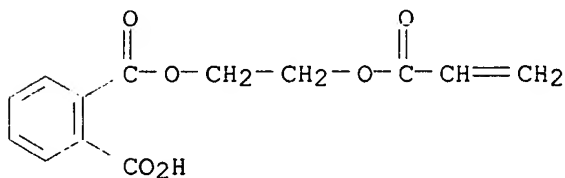
CRN 2530-83-8  
CMF C9 H20 O5 Si



RN 177799-27-8 HCAPLUS  
CN 1,2-Benzenedicarboxylic acid, mono[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-propenoic acid and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

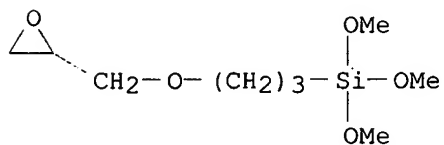
CM 1

CRN 30697-40-6  
CMF C13 H12 O6



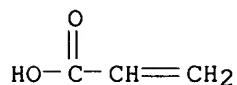
CM 2

CRN 2530-83-8  
CMF C9 H20 O5 Si



CM 3

CRN 79-10-7  
CMF C3 H4 O2



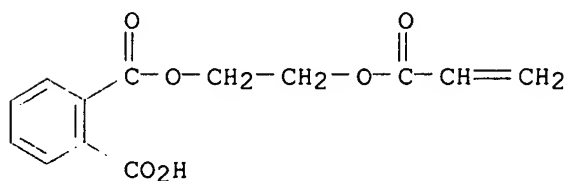
RN 177799-28-9 HCAPLUS  
CN 1,2-Benzenedicarboxylic acid, mono[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid

and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 30697-40-6

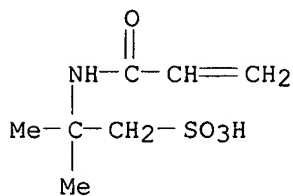
CMF C13 H12 O6



CM 2

CRN 15214-89-8

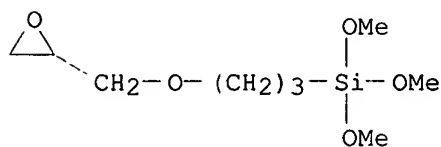
CMF C7 H13 N O4 S



CM 3

CRN 2530-83-8

CMF C9 H20 O5 Si



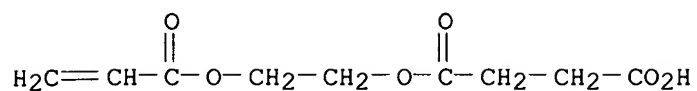
RN 177799-91-6 HCAPLUS

CN 1,2,4-Benzenetricarboxylic acid, mono[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-[(1-oxo-2-propenyl)oxy]ethyl hydrogen butanedioate and trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 50940-49-3

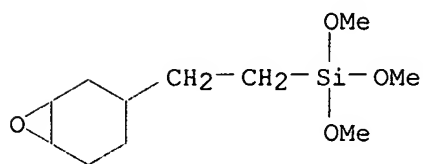
CMF C9 H12 O6



CM 2

CRN 3388-04-3

CMF C11 H22 O4 Si



CM 3

CRN 61966-31-2

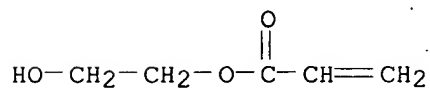
CMF C14 H12 O8

CCI IDS

CM 4

CRN 818-61-1

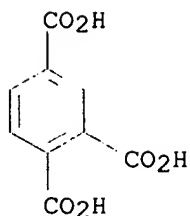
CMF C5 H8 O3



CM 5

CRN 528-44-9

CMF C9 H6 O6



L32 ANSWER 21 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1996:241755 HCAPLUS  
 DN 124:319733

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

TI Manufacture of antifogging acrylic coatings

IN Eguchi, Juji; Nomura, Shigeki

PA Sekisui Chemical Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08J007-04

ICS B32B009-00; B32B027-00; B32B027-16; C09K003-18

CC 42-2 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08027291	A2	19960130	JP 1994-166723	19940719
PRAI	JP 1994-166723		19940719		
OS	MARPAT 124:319733				

AB In first stage undercoatings contg. (hydrolytic) silane coupling agents XSiR1R2R3 [R1-3 = halo, lower alkyl, alkoxy, acetoxy; .gtoreq.1 of R1-3 = halo, lower alkoxy, acetoxy; X = vinyl- or (meth)acryloyl-terminated lower alkyl], hydrophobic polyfunctional (meth)acrylates with .gtoreq.2 (meth)acryloyl, and (A) photopolymn. initiators are coated on plastic or inorg. substrates and heat-cured, and in second stage, the coatings are contacted with compns. contg. hydrophilic monomers with .gtoreq.1 (meth)acryloyl group and A, irradiated, and photocured to give title materials with good hot water resistance, useful for automobile windshields, optical materials, etc. Thus, hydrolytic KBM 503 5, Kayarad PET 30 5, Irgacure 184 0.2, and Kayacure EPA 0.1 g were mixed, coated on a glass plate, heated at 120.degree. for 2 h to give an undercoating layer, which was dipped in a compn. contg. TBAS-Q 5, Irgacure 184 0.2, and Kayacure EPA 0.1 g and UV-irradiated to give a test piece showing good fogging and hot water resistance.

ST antifogging coating acrylic polymer; hydrolytic silane coupling agent coating; photopolymn initiator coating  
hydrophobic methacrylate; carboxyl acrylate photopolymn coating  
manuf

IT Polymerization catalysts

Transparent materials

(antifogging coatings contg. hydrolytic silane coupling agents, (meth)acrylates and photopolymn. initiators)

IT Acrylic polymers, miscellaneous

Glass, oxide

Polycarbonates, miscellaneous

RL: MSC (Miscellaneous)

(substrates; antifogging coatings contg. hydrolytic silane coupling agents, (meth)acrylates and photopolymn. initiators)

IT Antifogging agents

(coatings, antifogging coatings contg. hydrolytic silane coupling agents, (meth)acrylates and photopolymn. initiators)

IT 176530-67-9P 176530-68-0P

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(antifogging coatings contg. hydrolytic silane coupling agents, (meth)acrylates and photopolymn. initiators)

IT 947-19-3 10287-53-3, Kayacure EPA

RL: CAT (Catalyst use); USES (Uses)

(photopolymn. initiators; antifogging coatings contg. hydrolytic silane coupling agents, (meth)acrylates and photopolymn. initiators)

IT 176530-67-9P 176530-68-0P

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(antifogging coatings contg. hydrolytic silane coupling agents, (meth)acrylates and photopolymn. initiators)

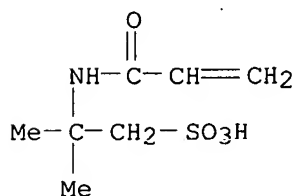
RN 176530-67-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 15214-89-8

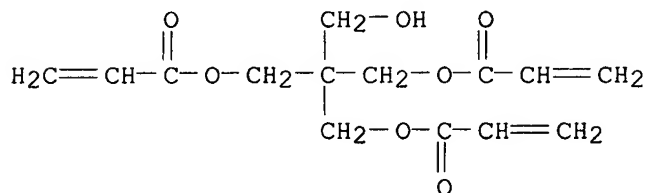
CMF C7 H13 N O4 S



CM 2

CRN 3524-68-3

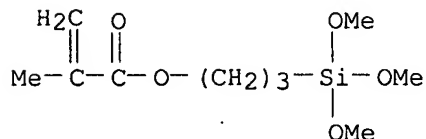
CMF C14 H18 O7



CM 3

CRN 2530-85-0

CMF C10 H20 O5 Si



RN 176530-68-0 HCAPLUS

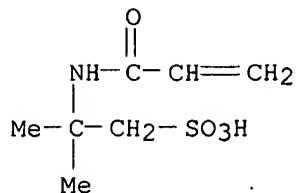
CN 2-Propenoic acid, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with ethenyltriethoxysilane and

2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 15214-89-8

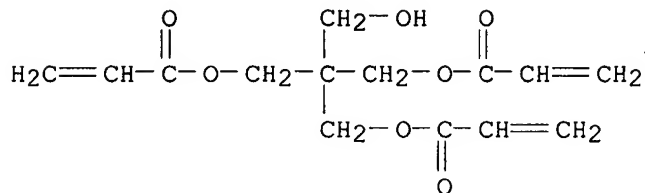
CMF C7 H13 N O4 S



CM 2

CRN 3524-68-3

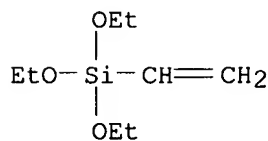
CMF C14 H18 O7



CM 3

CRN 78-08-0

CMF C8 H18 O3 Si



L32 ANSWER 22 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1995:559822 HCAPLUS

DN 122:293593

TI Antifogging agents for eyeglasses

IN Hidaka, Ryutaro; Iguchi, Mikiko

PA Sofuto 99 Koohoreeshon Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02C011-08

ICS C09K003-18

ICA B01F017-54

CC 42-10 (Coatings, Inks, and Related Products)

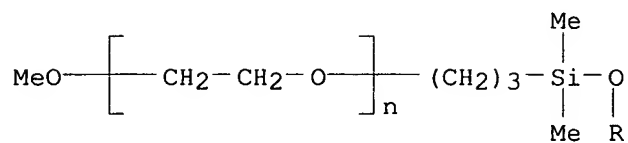
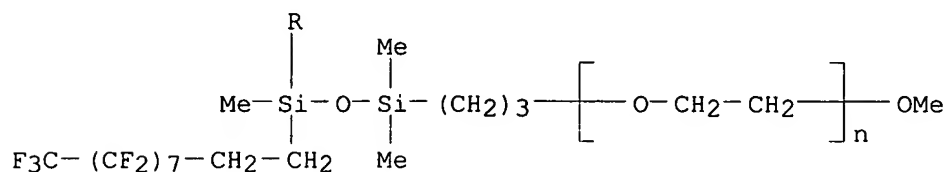
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07020411	A2	19950124	JP 1993-220461	19930703
PRAI	JP 1993-220461		19930703		
OS	MARPAT 122:293593				
AB	Title <b>aq.</b> agents contain low alcs., 1.0-3.0% nonionic fluoro surfactants, 1.0-3.0% cationic fluoro surfactants, and 0.02-0.5% perfluoroalkyl-contg. silicones. A <b>compn.</b> of <b>water</b> 45, EtOH 50.95, Eftop EF 122 C (nonionic fluoro surfactant) 2, Eftop EF 132 (cationic fluoro surfactant) 2, and X 70-090 (perfluoroalkyl silicone) 0.05 part was applied on (fluoro) <b>coating</b> -coated glass lenses or plastic lenses and showed good antifogging ability.				
ST	fluoro surfactant <b>aq</b> antifogging agent; perfluoroalkyl silicone <b>aq</b> antifogging agent; eyeglass <b>aq</b> antifogging agent; plastic lens <b>aq</b> antifogging agent				
IT	Plastics, molded RL: MSC (Miscellaneous) (lenses; nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	Surfactants (nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eye glasses)				
IT	Lenses (nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	Antifogging agents (nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> solns. for eyeglasses)				
IT	Lenses (eyeglass, nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	Siloxanes and Silicones, uses RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (perfluoroalkyl, nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	52550-45-5, Megafac F 142D RL: MOA (Modifier or additive use); USES (Uses) (Megafac F 142D; nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	57765-32-9, Megafac F 150 RL: MOA (Modifier or additive use); USES (Uses) (Megafac F 150; nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	93195-97-2, Eftop EF 122B 132790-52-4 162747-54-8 165967-96-4 RL: MOA (Modifier or additive use); USES (Uses) (nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				
IT	132790-52-4 162747-54-8 165967-96-4 RL: MOA (Modifier or additive use); USES (Uses) (nonionic/cationic fluoro surfactant- and perfluoroalkyl silicone-contg. <b>aq.</b> antifogging agents for eyeglasses)				



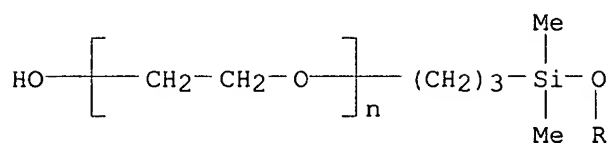
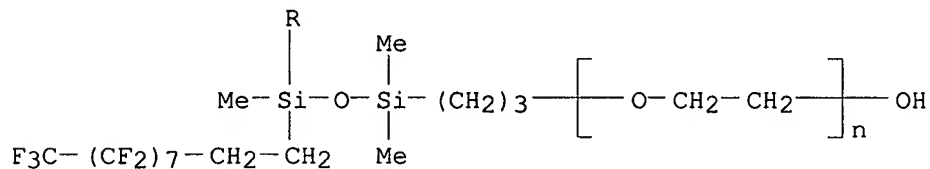
RN 132790-52-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[[3-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-1,1,3,5,5-pentamethyl-1,5-trisiloxanediyl]di-3,1-propanediyl]bis[.omega.-methoxy-(9CI) (CA INDEX NAME)



RN 162747-54-8 HCAPLUS

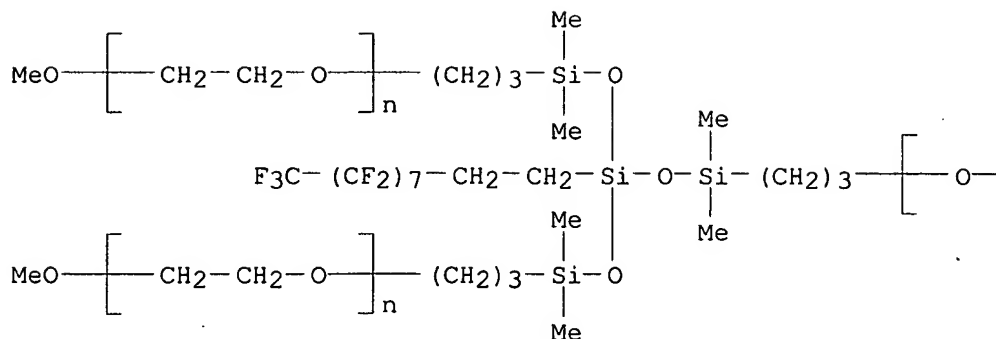
CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[[3-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-1,1,3,5,5-pentamethyl-1,5-trisiloxanediyl]di-3,1-propanediyl]bis[.omega.-hydroxy-(9CI) (CA INDEX NAME)



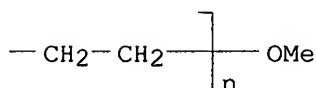
RN 165967-96-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.',.alpha.''-[[[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)silyldyne]tris[oxy(dimethylsilylene)-3,1-propanediyl]]tris[.omega.-methoxy-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L32 ANSWER 23 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1995:557113 HCAPLUS

DN 122:293543

TI    Antifogging abrasion-resistant coating composition  
with good adhesion to synthetic resin article

IN Cho, Yong-Il; Jang, Sung-Hoon; Park, Jung-Ok

PA Lucky Ltd., S. Korea

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09D004-00

ICS C09D143-04; C09D004-06

CC 42-10 (Coatings, Inks, and Related Products)

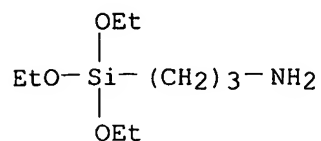
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	EP 620255	A1	19941019	EP 1994-105810	19940414
	EP 620255	B1	20020227		
	R: CH, DE, GB, LI, SE				
	JP 06340841	A2	19941213	JP 1994-77664	19940415
	JP 3227507	B2	20011112		
	CN 1098429	A	19950208	CN 1994-104440	19940415
	CN 1040015	B	19980930		
	US 5674941	A	19971007	US 1994-335002	19940415
	US 5679458	A	19971021	US 1996-638270	19960426
	PRAI	KR 1993-6425	A	19930416	
US 1994-335002		A3	19940415		

AB The title **coating compn.** comprises (a) an epoxy functional organosilane or its hydrolyzate or condensate .ltoreq.50; (b)

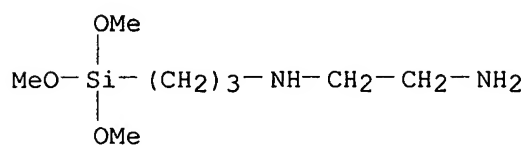
- an amino functional organosilane or its hydrolyzate or condensate 10-70; (c) a hydrophilic (meth)acrylate monomer, or a copolymer of hydrophilic (meth)acrylate monomer, another hydrophilic monomer, or an organosilane and/or a terpolymer of the same 3 components 10-70; (d) a curing catalyst 0.05-10%; and, optionally, a multifunctional (meth)acrylate monomer having .gtoreq.2 (meth)acryl groups and a radical polymn. initiator. A **compn.** contg. hydroxyethyl methacrylate-methacryloxypropyl trimethoxysilane copolymer (I) 20, aminopropyl triethoxysilane hydrolyzate soln. 60, N-.beta.-(aminoethyl)-.gamma.-aminopropyltrimethoxysilane 60, NH4 perchlorate 0.4, leveling agent 0.04, and Et Cellosolve 30 parts was applied to a polycarbonate plate, dried at 90.degree. for 10 min, and cured at 130.degree. for 20 min to give a coated plate having Taber abrasion resistance (as percentage change of haze of **coatings**) 9.7%, antifog effect (time to fogging of cold article subjected to **water** vapor at 55.degree.) 2 min, and good adhesion to substrate, vs. 13.4, 1.9, and poor, resp., without I, but including diethylenetriaminopropyl trimethoxysilane hydrolyzate.
- ST hydroxyethyl methacrylate copolymer blend antifog **coating**; methacryloxypropyl trimethoxysilane copolymer blend antifog **coating**; aminopropyl triethoxysilane hydrolyzate antifog **coating**; antifogging abrasion resistant **coating** adhesion polycarbonate
- IT Polycarbonates, miscellaneous  
Polyesters, miscellaneous  
RL: MSC (Miscellaneous)  
(substrate; antifogging abrasion-resistant **coating compn.** with good adhesion to)
- IT Antifogging agents  
(**coatings**, abrasion- and **water**-resistant, curable blend of functional silane, hydrophilic copolymer contg. catalyst with good adhesion to resin article)
- IT 919-30-2D, hydrolyzed 1760-24-3D, N-.beta.-(Aminoethyl)-.gamma.-aminopropyltrimethoxysilane, hydrolyzed 2530-83-8D, .gamma.-Glycidoxypropyl trimethoxysilane, hydrolyzed 28472-86-8, Glycidyl methacrylate-hydroxyethyl methacrylate copolymer 28518-77-6, Acrylamide-hydroxyethyl methacrylate copolymer 31343-95-0 35141-30-1D, hydrolyzed 35312-93-7 55031-95-3, Acrylamide-glycidyl methacrylate copolymer 56486-71-6 163109-37-3 163109-38-4 163109-39-5 163109-40-8  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(antifogging abrasion-resistant **coating compn.** with good adhesion to synthetic resin article)
- IT 9002-86-2, Polyvinyl chloride 9003-53-6, Polystyrene 9003-54-7, Acrylonitrile-styrene copolymer 9003-56-9, ABS resin 9011-14-7, PMMA 25656-90-0, Polyallyldiglycol carbonate  
RL: MSC (Miscellaneous)  
(substrate; antifogging abrasion-resistant **coating compn.** with good adhesion to)
- IT 919-30-2D, hydrolyzed 1760-24-3D, N-.beta.-(Aminoethyl)-.gamma.-aminopropyltrimethoxysilane, hydrolyzed 2530-83-8D, .gamma.-Glycidoxypropyl trimethoxysilane, hydrolyzed 31343-95-0 35141-30-1D, hydrolyzed 35312-93-7 56486-71-6 163109-37-3 163109-38-4 163109-40-8  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(antifogging abrasion-resistant **coating compn.** with good adhesion to synthetic resin article)
- RN 919-30-2 HCAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



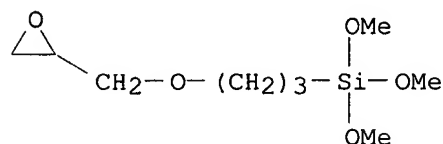
RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



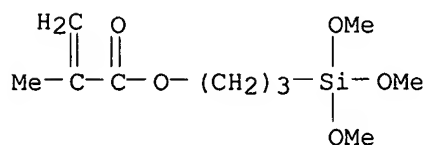
RN 31343-95-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

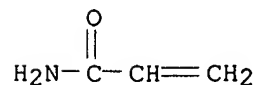
CMF C10 H20 O5 Si



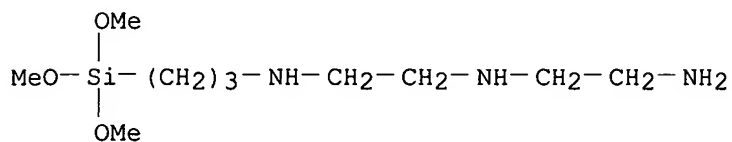
CM 2

CRN 79-06-1

CMF C3 H5 N O



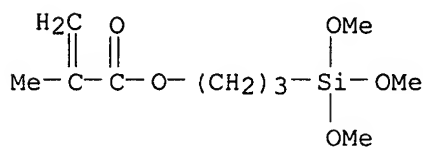
RN 35141-30-1 HCAPLUS  
 CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]- (9CI)  
 (CA INDEX NAME)



RN 35312-93-7 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with  
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

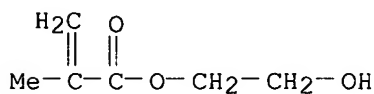
CM 1

CRN 2530-85-0  
 CMF C10 H20 O5 Si



CM 2

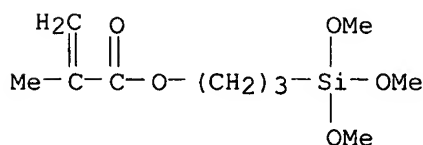
CRN 868-77-9  
 CMF C6 H10 O3



RN 56486-71-6 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with  
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

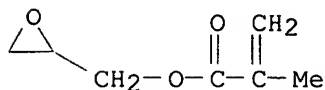
CM 1

CRN 2530-85-0  
 CMF C10 H20 O5 Si



CM 2

CRN 106-91-2  
CMF C7 H10 O3

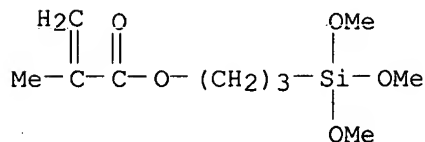


RN 163109-37-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

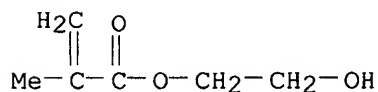
CM 1

CRN 2530-85-0  
CMF C10 H20 O5 Si



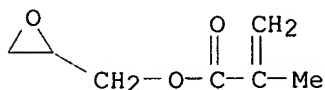
CM 2

CRN 868-77-9  
CMF C6 H10 O3



CM 3

CRN 106-91-2  
CMF C7 H10 O3

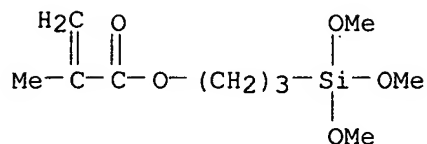


RN 163109-38-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 2-propenamide and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

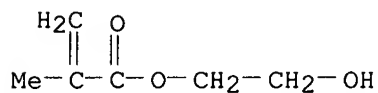
CM 1

CRN 2530-85-0  
CMF C10 H20 O5 Si



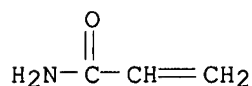
CM 2

CRN 868-77-9  
CMF C6 H10 O3



CM 3

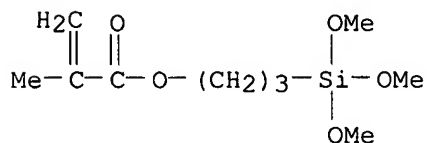
CRN 79-06-1  
CMF C3 H5 N O



RN 163109-40-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with  
2-propenamide and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI)  
(CA INDEX NAME)

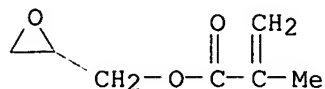
CM 1

CRN 2530-85-0  
CMF C10 H20 O5 Si



CM 2

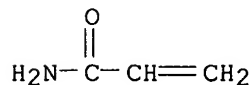
CRN 106-91-2  
CMF C7 H10 O3



CM 3

CRN 79-06-1

CMF C3 H5 N O



L32 ANSWER 24 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1994:633206 HCAPLUS

DN 121:233206

TI Colloidal inorganic oxide particles and their use in antifogging  
**coating compositions**

IN Yoshitome, Hiroo; Senju, Noboru

PA Catalysts &amp; Chem Ind Co, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09C003-12

ICS C09D005-00; C09D007-12

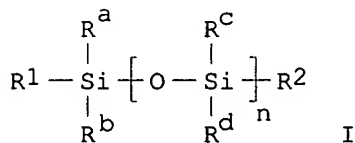
CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06166829	A2	19940614	JP 1992-345486	19921201
PRAI	JP 1992-345486		19921201		

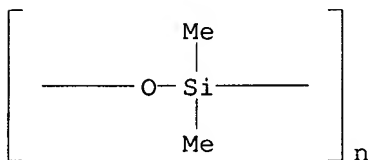
GI



AB Title particles are modified with I [Ra-d = H, C1-4 alkyl; R1, R2 = (CH2)xO(CH2)yOH, (C2H4O)zH; x = 0-5; yr = 1-5; z = 5-20] and **coating** compns. contg. the modified particles are antifogging and useful for plastic films and sheets. Thus, 100 g Oscal 1432 (30% sol in iso-PrOH) and 2 g Silaplane FM 4411 (hydroxyethoxypropyl-terminated di-Me siloxane) were heated at 60.degree. for 20 h to give siloxane-modified colloidal SiO2 sol, which was mixed with an org. soln. of acrylic resins to give an antifogging **coating**. An acrylic substrate covered to 1 .mu.m thickness with the **coating** prevented moisture condensation when held over **water** in a const. temp. bath at 45.degree. for 6 wk.



ST antifogging siloxane modified oxide colloid  
 IT Siloxanes and Silicones, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (alkyl, Colloidal inorg. oxide particles and their use in antifogging  
 coating comps.)  
 IT Antifogging agents  
 (coatings, Colloidal inorg. oxide particles and their use in  
 antifogging coating comps.)  
 IT Siloxanes and Silicones, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (hydroxy-terminated, Colloidal inorg. oxide particles and their use in  
 antifogging coating comps.)  
 IT 7631-86-9D, Silica, reaction products with hydroxyethoxypropyl-terminated  
 di-Me siloxanes 9016-00-6D, Dimethyl siloxane,  
 hydroxyethoxypropyl-terminated, reaction products with oxides  
 13463-67-7D, Titania, reaction products with hydroxyethoxypropyl-  
 terminated di-Me siloxanes  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Colloidal inorg. oxide particles and their use in antifogging  
 coating comps.)  
 IT 9016-00-6D, Dimethyl siloxane, hydroxyethoxypropyl-terminated,  
 reaction products with oxides  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Colloidal inorg. oxide particles and their use in antifogging  
 coating comps.)  
 RN 9016-00-6 HCAPLUS  
 CN Poly[oxy(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



L32 ANSWER 25 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1992:552904 HCAPLUS  
 DN 117:152904  
 TI Antifogging coatings based on poly(vinyl alcohol)  
 IN Hosono, Hiroshi; Taniguchi, Takashi  
 PA Toray Industries, Inc., Japan  
 SO U.S., 6 pp. Cont.-in-part of U.S. Ser. No. 460,789, abandoned.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C09K003-18  
 ICS B32B027-30; B32B005-16  
 NCL 428213000  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 57  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5134021	A	19920728	US 1990-467353	19900123
	AU 631392	B2	19921126	AU 1990-47945	19900112
	AU 9047945	A1	19910718		
PRAI	US 1990-460789		19900104		

OS MARPAT 117:152904

AB **Antifogging coatings** with good abrasion resistance for glass have .gtoreq.1 layer contg. poly(vinyl alc.) (I) and (A) .gtoreq.1 of silica with particle size 5-200 .mu.m, R1R2aSiX3-a (II, R1 = C1-10 org. group, R2 = C1-6 hydrocarb. X = hydrolyzable group, a = 0 or 1), and hydrolyzed II, with S2/S1 .gtoreq. 1.05 (S2 = ratio of I to A in the layer contiguous to the outermost layer, S1 = ratio of I to A in the outermost layer). Thus, applying a compn. (S2 = 1) contg. I, hydrolyzed .gamma.-glycidyloxypropyltrimethoxysilane (III), MeOH-silica sol with av. particle size 13 .mu.m, Al acetylacetonate (IV), 1,4-dioxane (V), and **water** to a glass plate, drying 60 min at 80.degree., overapplying with a compn. (S1 = 0.160) contg. I, hydrolyzed III, MeOH-silica sol, IV, V, and **water**, drying 10 min at 80.degree., curing 2 h at 120.degree., and immersing in **water** at 90.degree. gave an abrasion-resistant, **antifogging coating**.

ST polyvinyl alc **antifogging coating** glass; silica **antifogging coating**; glycidylsilane hydrolyzed **antifogging glass**

IT **Antifogging agents**  
(**coatings**, abrasion-resistant, multilayer, contg. poly(vinyl alc.) and siloxanes and silica, for glass)

IT Siloxanes and Silicones, uses

RL: USES (Uses)

(glycidyl group-contg., **coatings** contg., **antifogging** abrasion-resistant, for glass)

IT 7631-86-9, Silica, uses 9002-89-5, Poly(vinyl alcohol)

RL: USES (Uses)

(**coatings** contg., **antifogging** abrasion-resistant, for glass)

IT 2530-83-8, .gamma.-Glycidyloxypropyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrolytic polymn. of, in manuf. of **antifogging coatings**)

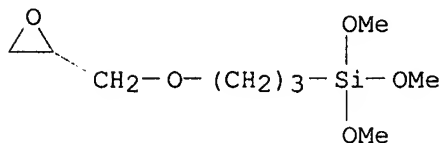
IT 2530-83-8, .gamma.-Glycidyloxypropyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrolytic polymn. of, in manuf. of **antifogging coatings**)

RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L32 ANSWER 26 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1992:43198 HCAPLUS

DN 116:43198

TI Photopolymerizable **compositions** for hydrophilic films and **antifogging coatings**

IN Ito, Hiroshi; Nitta, Atsuhiko; Kamio, Hideo; Abe, Koji

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F220-56  
ICS C08F220-56; C08F220-58; C08F299-00; C08J005-18; D21H019-20;  
D21H027-20

ICA C09D004-02

ICI C08L033-00

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03200815	A2	19910902	JP 1990-89063	19900405
PRAI	JP 1989-84741		19890405		
AB	The title compns. contain (meth)acrylamides H2C:CR1CONR2R3 [R1 = H, Me; R2 = H, Me, Et; R3 = Me, Et, Pr; R2R3 = (CH2)4-6, (CH2)20(CH2)2], crosslinking monomers with cyclic structures and mol. wt. >300, surfactants, and photoinitiators. A mixt. of N-acryloylpyrrolidine 25, Aronix M-1100 (urethane acrylate) 25, Emulgen 106 4.5, and 2-hydroxy-2-methyl-1-phenyl-1-propanone 0.5 g was thinned with 75:15:5 MeOH-EtOH-toluene, dip-coated on a polycarbonate plate, and photocured to give a 15-.mu.m <b>coating</b> with durable antifogging performance, good adhesion, and good <b>water</b> and weather resistance.				
ST	photocuring acrylamide antifogging <b>coating</b> ; polycarbonate antifogging <b>coating</b> ; acryloylpyrrolidine polymer antifogging; crosslinking UV antifogging <b>coating</b> ; pyrrolidine acryloyl polymer antifogging; urethane acrylate antifogging <b>coating</b> ; hydrophilicity polymer photocuring; surfactant polymer antifogging; polymn UV acrylamide antifogging				
IT	Polycarbonates, miscellaneous RL: MSC (Miscellaneous) (antifogging <b>coatings</b> for, photocured)				
IT	Ethers, uses Ketones, uses RL: CAT (Catalyst use); USES (Uses) (catalysts, for photocuring of antifogging <b>coatings</b> )				
IT	Surfactants (phosphate-type, antifogging <b>coatings</b> contg., photocured)				
IT	Quaternary ammonium compounds, uses RL: USES (Uses) (surfactants, antifogging <b>coatings</b> contg., photocurable)				
IT	Surfactants (anionic, antifogging <b>coatings</b> contg., photocured)				
IT	Surfactants (cationic, antifogging <b>coatings</b> contg., photocurable)				
IT	Antifogging agents ( <b>coatings</b> , photocurable, (meth)acrylamide derivs. and surfactants for)				
IT	Surfactants (nonionic, antifogging <b>coatings</b> contg., photocured)				
IT	Polymerization catalysts (photochem., for acrylamide deriv.-contg. antifogging <b>coatings</b> )				
IT	88-12-0, uses 122-19-0, Stearyl dimethylbenzylammonium chloride 141-32-2 151-21-3, uses 502-44-3D, Caprolactone, reaction products with tris(hydroxyethyl)isocyanurate 818-61-1 839-90-7D, Tris(2-Hydroxyethyl)isocyanurate, reaction products with caprolactone 1338-39-2, Sorbitan monolaurate 1639-66-3, Dioctyl sodiosulfosuccinate 2223-82-7, Neopentyl glycol diacrylate 2565-18-6, N-Butylacrylamide 2680-03-7, N,N-Dimethylacrylamide 3085-68-5, N,N-Diallylacrylamide 3845-76-9, N,N-Dimethylaminopropylacrylamide 5883-17-0, N-Ethylacrylamide 9002-92-0, Polyethylene glycol lauryl ether 9003-11-6D, Polyethylene polypropylene glycol, alkyl ethers 9004-95-9,				

Polyethylene glycol cetyl ether 9004-99-3, Polyethylene glycol monostearate 9005-00-9 9005-64-5, Polyoxyethylene sorbitan monolaurate 9005-70-3, Polyoxyethylene sorbitan trioleate 9016-45-9, Polyethylene glycol nonylphenyl ether 9081-17-8D, salts 25322-68-3D, derivs. 25999-13-7, N-Propylacrylamide 27028-82-6 29570-58-9, Dipentaerythritol hexaacrylate 42104-70-1, N-Acryloylpyrrolidine 67999-57-9 106392-12-5 111565-18-5, UV4200B 127739-08-6 138177-13-6 138177-14-7 138204-02-1 138204-03-2 138204-05-4 138204-06-5 138204-07-6 138204-08-7 138204-09-8 138216-12-3 138532-58-8

RL: USES (Uses)

(antifogging coatings contg., photocured, weather-resistant)

IT 7429-90-5, Aluminum, uses 9011-14-7, PMMA

RL: USES (Uses)

(antifogging coatings for, photocurable)

IT 947-19-3, 1-Hydroxycyclohexyl phenyl ketone 6652-28-4, Benzoin isopropyl ether 7473-98-5, 2-Hydroxy-2-methyl-1-phenyl-1-propanone 10287-53-3, Ethyl p-dimethylaminobenzoate 15206-55-0, Methyl benzoylformate 21245-01-2, Isoamyl p-dimethylaminobenzoate 22499-12-3, Benzoin isobutyl ether 71868-10-5, 2-Methyl-1-[4-(methylthio)phenyl]-2-morpholino-1-propanone 76293-13-5, 2,4-Dimethylthioxanthone 82799-44-8, 2,4-Diethylthioxanthone 106797-53-9

RL: CAT (Catalyst use); USES (Uses)

(catalysts, for photocuring of antifogging coatings)

IT 9002-86-2, PVC

RL: USES (Uses)

(cellular, photocurable antifogging coatings for)

IT 138204-05-4

RL: USES (Uses)

(antifogging coatings contg., photocured, weather-resistant)

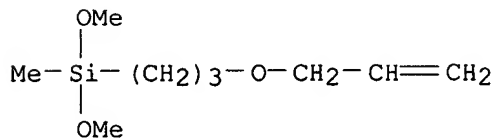
RN 138204-05-4 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, di-2-propenoate, polymer with Aronix M 1100, dimethoxymethyl[3-(2-propenyloxy)propyl]silane and 1-(1-oxo-2-propenyl)pyrrolidine (9CI) (CA INDEX NAME)

CM 1

CRN 138204-04-3

CMF C9 H20 O3 Si



CM 2

CRN 89190-99-8

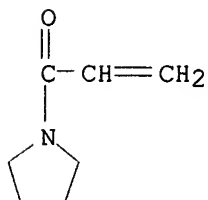
CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 42104-70-1  
CMF C7 H11 N O

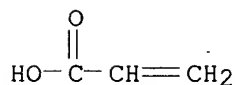


CM 4

CRN 53814-24-7  
CMF (C15 H16 O2 . C3 H5 Cl O)x . 2 C3 H4 O2

CM 5

CRN 79-10-7  
CMF C3 H4 O2

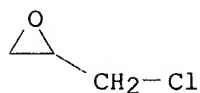


CM 6

CRN 25068-38-6  
CMF (C15 H16 O2 . C3 H5 Cl O)x  
CCI PMS

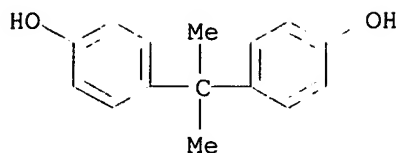
CM 7

CRN 106-89-8  
CMF C3 H5 Cl O



CM 8

CRN 80-05-7  
CMF C15 H16 O2



L32 ANSWER 27 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1991:230828 HCAPLUS

DN 114:230828

TI Antifogging compositions

IN Hashimoto, Kazumasa; Noda, Koji; Ando, Hiroshi; Hattori, Jun; Yonezawa, Kazuya

PA Kanegafuchi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

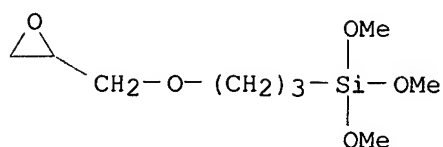
IC ICM C09K003-18

ICS C08L071-02; C08L083-12

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02311590	A2	19901227	JP 1989-132976	19890526
PRAI	JP 1989-132976		19890526		
AB	Title compns., useful for glass, comprise crosslinkable poly(ethylene oxide) contg. .gtoreq.1 Si-OH or Si-hydrolyzable group. The compns. may be used together with silane or titanate coupling agents. Thus, a toluene soln. of .gamma.-(methyldimethoxysilyl)propyl-terminated polyoxyethylene (no.-av. mol. wt. 1300) contg. Sn octanoate and laurylamine was applied to a glass plate and cured to form a film which showed no dew condensation when placed above boiling water as freshly formed or after repetition of the dew condensation test once a day for 30 days.				
ST	silyl terminated polyoxyethylene coating antifogging;				
IT	glass antifogging coating silyl polyoxyethylene				
IT	Coupling agents				
	(silanes and titanates, alkoxysilyl-terminated polyoxyethylenes contg., antifogging coatings, for glass)				
IT	Antifogging agents				
	(coatings, alkoxysilyl-terminated polyoxyethylenes, for glass)				
IT	2530-83-8, .gamma.-Glycidoxypropyltrimethoxysilane 90959-84-5				
RL:	USES (Uses)				
	(coatings contg. alkoxysilyl-terminated polyoxyethylene and, antifogging, for glass)				
IT	25322-68-3D, .gamma.-(methyldimethoxysilyl)propyl-terminated				
RL:	USES (Uses)				
	(coatings contg., antifogging, for glass)				
IT	2530-83-8, .gamma.-Glycidoxypropyltrimethoxysilane				
RL:	USES (Uses)				
	(coatings contg. alkoxysilyl-terminated polyoxyethylene and, antifogging, for glass)				
RN	2530-83-8 HCAPLUS				
CN	Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)				



L32 ANSWER 28 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:593622 HCAPLUS

DN 113:193622

TI Vinyl polymers curable by moisture as transparent coatings on agricultural covering films

IN Kuriyama, Satoshi; Nakajima, Shunichi

PA Sanyo Chemical Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L043-04

ICS C08J007-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 37, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02169651	A2	19900629	JP 1988-324017	19881222
PRAI	JP 1988-324017		19881222		
AB	The title polymers contain hydrolyzable silyl groups and hydrophilic polyoxyethylene groups and form antifogging coatings on agricultural films. A copolymer of Me methacrylate (I), a 1:8 (mol) 2-hydroxyethyl methacrylate (II)-ethylene oxide adduct, and H <sub>2</sub> C:CM <sub>2</sub> CO <sub>2</sub> (CH <sub>2</sub> ) <sub>3</sub> Si(OMe) <sub>3</sub> (III) was mixed with a copolymer of I, 2-ethylhexyl acrylate, II, III, and styrene, a catalyst, and AcOEt, and the mixt. was coated on PVC film and cured 1 wk to give a 2-.mu.m coating showing resistance to fogging during 6 mo over water at 40.degree..				
ST	polyoxyethylene acrylate coating antifogging; agriculture film antifogging coating; silane crosslinking coating antifogging; PVC film antifogging coating; hydrophilicity acrylate coating antifogging				
IT	Antifogging agents (coatings, acrylate polymers, for PVC films, for agriculture)				
IT	129997-88-2 129998-19-2 130230-99-8 130231-00-4 RL: USES (Uses) (antifogging coatings, for PVC films for agriculture)				
IT	13822-56-5D, reaction products with isophorone diisocyanate-polypropylene glycol copolymer 39323-37-0D, Isophorone diisocyanate-polypropylene glycol copolymer, reaction products with (aminopropyl)trimethoxysilane RL: MOA (Modifier or additive use); USES (Uses) (crosslinking agents, for antifogging coatings)				
IT	9002-86-2, Poly(vinyl chloride) RL: USES (Uses) (films, antifogging coatings for, for agriculture)				
IT	129997-88-2 129998-19-2 130230-99-8 130231-00-4 RL: USES (Uses) (antifogging coatings, for PVC films for agriculture)				
RN	129997-88-2 HCAPLUS				

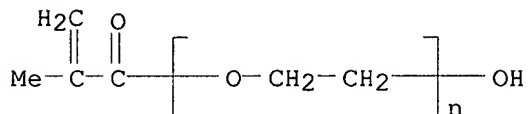
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene, 2-ethylhexyl 2-propenoate, methyl 2-methyl-2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 25736-86-1

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

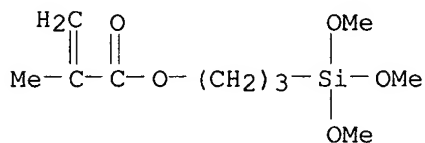
CCI PMS



CM 2

CRN 2530-85-0

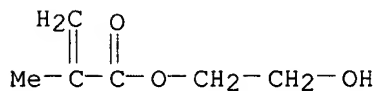
CMF C10 H20 O5 Si



CM 3

CRN 868-77-9

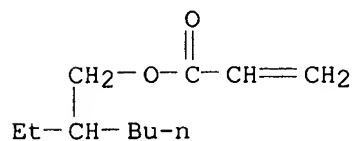
CMF C6 H10 O3



CM 4

CRN 103-11-7

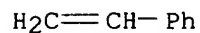
CMF C11 H20 O2





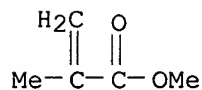
CM 5

CRN 100-42-5  
CMF C8 H8



CM 6

CRN 80-62-6  
CMF C5 H8 O2

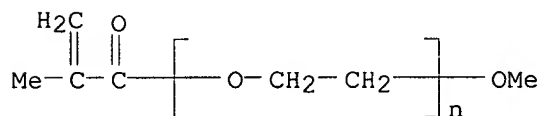


RN 129998-19-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with butyl 2-propenoate, ethenylbenzene and .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

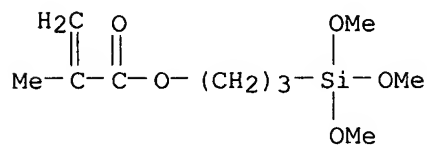
CM 1

CRN 26915-72-0  
CMF (C2 H4 O)<sub>n</sub> C5 H8 O2  
CCI PMS



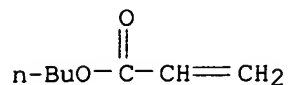
CM 2

CRN 2530-85-0  
CMF C10 H20 O5 Si



CM 3

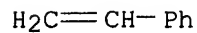
CRN 141-32-2  
CMF C7 H12 O2



CM 4

CRN 100-42-5

CMF C8 H8



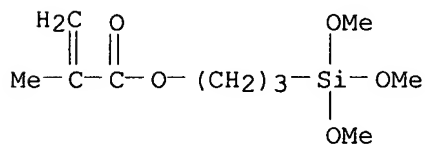
RN 130230-99-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene, 2-ethylhexyl 2-propenoate, methyl 2-methyl-2-propenoate, methyloxirane block polymer with oxirane 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ether and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, block (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

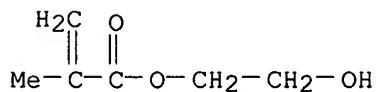
CMF C10 H20 O5 Si



CM 2

CRN 868-77-9

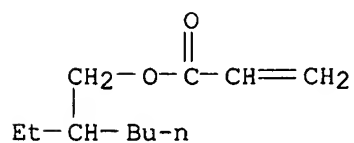
CMF C6 H10 O3



CM 3

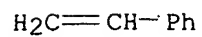
CRN 103-11-7

CMF C11 H20 O2



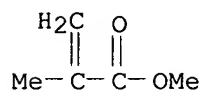
CM 4

CRN 100-42-5  
CMF C8 H8



CM 5

CRN 80-62-6  
CMF C5 H8 O2

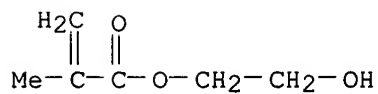


CM 6

CRN 130124-06-0  
CMF C6 H10 O3 . x (C3 H6 O . C2 H4 O) x

CM 7

CRN 868-77-9  
CMF C6 H10 O3

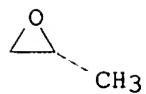


CM 8

CRN 106392-12-5  
CMF (C3 H6 O . C2 H4 O) x  
CCI PMS

CM 9

CRN 75-56-9  
CMF C3 H6 O



CM 10

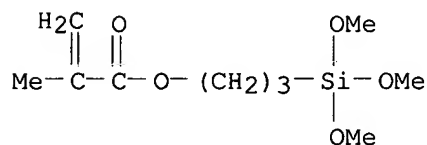
CRN 75-21-8  
CMF C2 H4 O



RN 130231-00-4 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyloxirane  
block polymer with oxirane 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ether  
and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, block (9CI) (CA  
INDEX NAME)

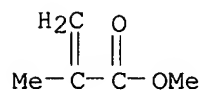
CM 1

CRN 2530-85-0  
CMF C10 H20 O5 Si



CM 2

CRN 80-62-6  
CMF C5 H8 O2

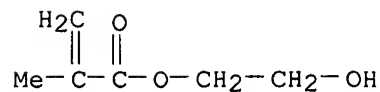


CM 3

CRN 130124-06-0  
CMF C6 H10 O3 . x (C3 H6 O . C2 H4 O) x

CM 4

CRN 868-77-9  
CMF C6 H10 O3

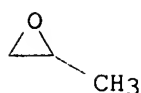


CM 5

CRN 106392-12-5  
 CMF (C3 H6 O . C2 H4 O)x  
 CCI PMS

CM 6

CRN 75-56-9  
 CMF C3 H6 O

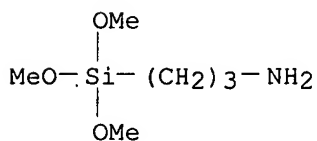


CM 7

CRN 75-21-8  
 CMF C2 H4 O



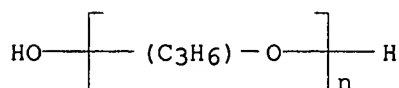
IT 13822-56-5D, reaction products with isophorone  
 diisocyanate-polypropylene glycol copolymer 39323-37-0D,  
 Isophorone diisocyanate-polypropylene glycol copolymer, reaction products  
 with (aminopropyl)trimethoxysilane  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agents, for antifogging coatings)  
 RN 13822-56-5 HCAPLUS  
 CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



RN 39323-37-0 HCAPLUS  
 CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer  
 with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI)  
 (CA INDEX NAME)

CM 1

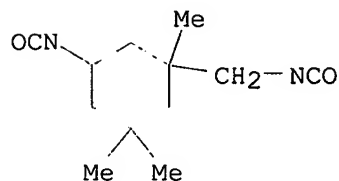
CRN 25322-69-4  
 CMF (C3 H6 O)n H2 O  
 CCI IDS, PMS



CM 2

CRN 4098-71-9

CMF C12 H18 N2 O2



L32 ANSWER 29 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1988:76753 HCAPLUS

DN 108:76753

TI **Antifogging coatings** for continuous hydrophilic modification of hydrophobic surfaces

IN Shimizu, Hideo; Imamura, Shigeru; Sugiura, Fumitoshi

PA Takemoto Oil and Fat Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K003-18

ICS B05D007-00; B05D007-04; B05D007-24

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42, 46

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62241984	A2	19871022	JP 1986-85777	19860414
	JP 07116423	B4	19951213		
PRAI	JP 1986-85777		19860414		

AB Surfaces are modified with (A) alumina sols, (B) acidic silica sols having pos. charges on the particle surfaces, (C) org. silane derivs. and/or their condensates having 1-3 silanol groups, and (D) nonionic surfactants, by a method which includes mixing C with 9:1-2:8 A/B mixts. to impart partial hydrophobicity to the particles, adding D at concn. 0.05-2.0% and (A + B + C)/D .gtoreq.5 to give a liq. having surface tension lower than the surface energy of the hydrophobic material, uniformly **coating** the hydrophobic surface with it, and drying. An LDPE greenhouse film was coated with a **compn.** of alumina sol 280, Snowtex AK (acidic silica sol) 20, and .gamma.-glycidoxypopyltrimethoxysilane 20 parts contg. 1.0% polyoxyethylene lauryl ether. The **coating** prevented adhesion of **water** droplets for >181 days.

ST agricultural film hydrophilic **antifogging coating**;  
alumina silica silane **antifogging coating**; colloidal  
alumina silica **antifogging coating**; nonionic  
surfactant hydrophilic **antifogging coating**

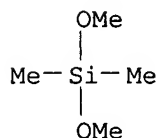
IT Greenhouses

(cover films, **antifogging coatings** for, colloidal  
alumina-silica compns. with silanes and nonionic surfactants)

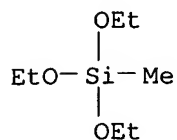
IT **Antifogging agents**

(**coatings**, scratch-resistant, colloidal alumina-silica mixts.  
with organosilanes and nonionic surfactants, long-lasting)

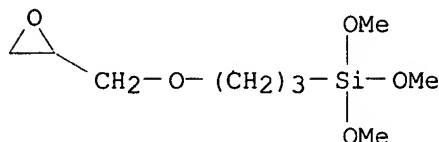
- IT **Coating process**  
(continuous, high-speed, of hydrophobic surfaces, colloidal alumina-silica **antifogging** compns. for)
- IT **Surfactants**  
(nonionic, colloidal silica-alumina **antifogging coatings** contg., with organosilanes)
- IT **Alcohols, uses and miscellaneous**  
RL: USES (Uses)  
(silyl, colloidal silica-alumina **antifogging coatings** contg., with nonionic surfactants)
- IT 9002-88-4, Polyethylene  
RL: USES (Uses)  
(agricultural films, **antifogging coatings** for, contg. alumina sols and silica sols and silanes and nonionic surfactants)
- IT 1112-39-6, Dimethoxydimethylsilane 2031-67-6, Methyltriethoxysilane 2530-83-8, .gamma.-Glycidyloxypropyltrimethoxysilane 23779-32-0, .gamma.-Ureapropyltriethoxysilane  
RL: USES (Uses)  
(colloidal silica/alumina **antifogging coatings** contg., with nonionic surfactants)
- IT 9002-92-0, Polyoxyethylenelauryl ether 9004-96-0, Polyoxyethyleneoleate 9005-64-5 9016-45-9, Polyoxyethylēnenonylphenyl ether  
RL: USES (Uses)  
(colloidal silica/alumina **antifogging coatings** contg., with organosilanes)
- IT 7631-86-9, Silica, uses and miscellaneous  
RL: USES (Uses)  
(colloidal, **antifogging coatings**, contg. alumina sols and silanes and nonionic surfactants, for hydrophobic surfaces)
- IT 1344-28-1, Alumina, uses and miscellaneous  
RL: USES (Uses)  
(colloidal, **antifogging coatings**, contg. silica sols and silanes and nonionic surfactants, for hydrophobic surfaces)
- IT 1112-39-6, Dimethoxydimethylsilane 2031-67-6, Methyltriethoxysilane 2530-83-8, .gamma.-Glycidyloxypropyltrimethoxysilane 23779-32-0, .gamma.-Ureapropyltriethoxysilane  
RL: USES (Uses)  
(colloidal silica/alumina **antifogging coatings** contg., with nonionic surfactants)
- RN 1112-39-6 HCAPLUS
- CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



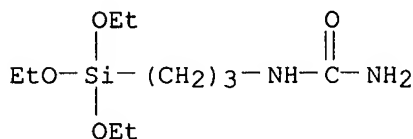
- RN 2031-67-6 HCAPLUS
- CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



RN 2530-83-8 HCAPLUS  
 CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 23779-32-0 HCAPLUS  
 CN Urea, [3-(triethoxysilyl)propyl]- (8CI, 9CI) (CA INDEX NAME)



L32 ANSWER 30 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1987:578196 HCAPLUS  
 DN 107:178196  
 TI Surface-modifying **coating compositions**  
 IN Shimizu, Hideo; Imamura, Shigeru; Sugiura, Fumitoshi  
 PA Takemoto Oil and Fat Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09K003-18  
 ICA C03C017-22; C03C017-28  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 19

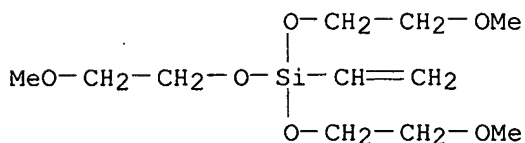
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 62062884	A2	19870319	JP 1985-202257	19850912
	JP 04078673	B4	19921211		
PRAI	JP 1985-202257		19850912		

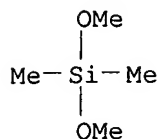
AB Title compns., having inorg. colloids contg. partially neutralized and hydrophobic particles and showing surface tension (St) >45 dyne/cm, useful as surface modifiers with good hydrophilicity and durability, comprise **water-sol.** or dispersible org. anionic compds. (A) and mixts. of 9:1 to 2:8 alumina sol (B)/acidic silica sol (C) contg. pos. charged particles. Aluminasol 200, Snowtex AK, Na caproate, and H<sub>2</sub>NCONHC<sub>3</sub>H<sub>6</sub>Si(OMe)<sub>3</sub> were mixed at 50.degree. for 5 h to form a **compn.** with St 66.8 dyne/cm, which was then spread on an LDPE film to form a product showing good durability and hydrophilicity [no



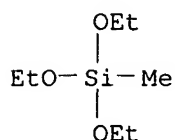
- water drops formed after temp. gradient (30.degree.-10.degree.) test for .gtoreq.721 days]. A compn. prepd. similarly having St <45 dyne/cm showed poor hydrophilicity.
- ST hydrophilicity inorg sol modified surface; alumina silica sol coating compn; surface tension inorg sol coating; antifogging agent inorg sol coating; greenhouse film inorg sol coating
- IT Sulfonates  
RL: USES (Uses)  
(coatings contg. alumina/silica sols and, hydrophilic)
- IT Coating materials  
(hydrophilic, water-insol., inorg. sols and org. anionic compds., on agricultural films)
- IT Alkali metals, compounds  
RL: USES (Uses)  
(salts, coatings contg. alumina/silica sols and, hydrophilic)
- IT 75-77-4 1067-53-4 1112-39-6 2031-67-6  
2530-83-8 23843-64-3  
RL: USES (Uses)  
(coatings contg. alumina/silica sols and, hydrophilic)
- IT 126-92-1, Sodium 2-ethylhexyl sulfate 127-39-9, Sodium diisobutylsulfosuccinate 137-40-6, Sodium propionate 151-21-3, Sodium laurylsulfate, uses and miscellaneous 156-54-7, Sodium butyrate 657-84-1, Sodium p-toluenesulfonate 2386-56-3, Potassium methanesulfonate 2386-57-4, Sodium methanesulfonate 5802-89-1 10051-44-2, Sodium caproate 25155-30-0, Sodium dodecylbenzenesulfonate  
RL: USES (Uses)  
(coatings contg. alumina/silica sols and, hydrophilic, on agricultural film)
- IT 9002-88-4, LDPE 25038-59-9, Poly(ethylene terephthalate), uses and miscellaneous  
RL: USES (Uses)  
(films, coatings on, hydrophilic, inorg. sols as, for greenhouse covers)
- IT 7631-86-9, Silica, uses and miscellaneous  
RL: USES (Uses)  
(sols, coatings contg. with alumina sols and, hydrophilic, on agricultural films)
- IT 1344-28-1, Aluminasol 200, uses and miscellaneous  
RL: USES (Uses)  
(sols, coatings, contg. silica sols, hydrophilic, on agricultural cover films)
- IT 1067-53-4 1112-39-6 2031-67-6  
2530-83-8 23843-64-3  
RL: USES (Uses)  
(coatings contg. alumina/silica sols and, hydrophilic)
- RN 1067-53-4 HCAPLUS
- CN 2,5,7,10-Tetraoxa-6-silaundecane, 6-ethenyl-6-(2-methoxyethoxy)- (9CI)  
(CA INDEX NAME)



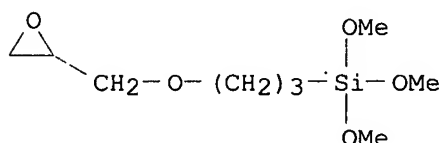
- RN 1112-39-6 HCAPLUS
- CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



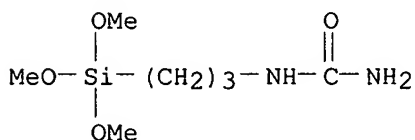
RN 2031-67-6 HCAPLUS  
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



RN 2530-83-8 HCAPLUS  
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 23843-64-3 HCAPLUS  
CN Urea, [3-(trimethoxysilyl)propyl]- (8CI, 9CI) (CA INDEX NAME)



L32 ANSWER 31 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1986:535642 HCAPLUS

DN 105:135642

TI **Antifogging coatings**

IN Shimizu, Hideo; Sugiura, Fumitoshi

PA Takemoto Oil and Fat Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K003-18

ICS C03C017-30; C08J007-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 61044971- A2 19860304 JP 1984-168044 19840810  
 JP 63067827 B4 19881227  
 PRAI JP 1984-168044 19840810

AB Long-lasting hydrophilic **coatings** which do not require baking or drying treatments after application, useful as **antifogging** agents for agricultural films, are prepd. by treating aq. silica sol dispersions with organosilanes and/or organosilane condensates having 1-3 silanol groups/mol., then adding ammonium compds. having C4-18 alkyl or alkenyl groups. Thus, 100 parts (solids) Cataloid SN (colloidal silica dispersion in aq. acid) was treated with 6 parts Me trimethoxysilane condensate at 20.degree. for 1 h, then mixed with 200 parts Bu3MeN+ MeSO4-, and applied to the inner surface of an LDPE hothouse cover film. The coated film showed excellent **fogging** resistance after 181 days, vs. <5 days for a Cataloid SN surfactant **coating compn.**

ST silica sol silanol **antifogging coating**; agricultural film **fogging** resistant **coating**; hothouse film **fogging** resistant **coating**; ammonium salt silane hydrolyzate **coating**; alkylammonium salt silane hydrolyzate **coating**

IT Greenhouses  
 (cover films for, **antifogging coatings** for, silica sol-hydrolyzed organosilane mixts. with alkylammonium compds., long-lasting)

IT Quaternary ammonium compounds, uses and miscellaneous  
 RL: USES (Uses)  
 (silica sol-hydrolyzed organosilane **antifogging coatings** contg., for agricultural films)

IT **Antifogging agents**  
 (coatings, silica sol-hydrolyzed organosilane mixts. with alkylammonium compds., long-lasting, for agricultural films)

IT 9002-88-4 9011-14-7 25038-59-9, uses and miscellaneous  
 RL: USES (Uses)  
 (agricultural films, **antifogging coatings** for, long-lasting)

IT 75-77-4D, hydrolyzed in aq. silica sols 1067-53-4D, hydrolyzed in aq. silica sols 1112-39-6D, hydrolyzed in aq. silica sols 1185-55-3D, hydrolyzed in aq. silica sols 2031-67-6D, hydrolyzed in aq. silica sols 2530-85-0D, hydrolyzed in aq. silica sols 4420-74-0D, hydrolyzed in aq. silica sols 18171-19-2D, hydrolyzed in aq. silica sols 23779-32-0D, hydrolyzed in aq. silica sols 25512-39-4D, hydrolyzed in aq. silica sols 65799-47-5D, hydrolyzed in aq. silica sols

RL: USES (Uses)  
 (antifogging coatings, contg. alkylammonium salts, for agricultural films)

IT 7631-86-9, uses and miscellaneous  
 RL: USES (Uses)

(colloidal, organosilanes hydrolyzed in presence of, alkylammonium salt mixts., **antifogging coatings**, for agricultural films)

IT 3006-13-1 13106-24-6 22981-54-0 71788-19-7 96903-00-3  
 104344-16-3 104355-40-0  
 RL: USES (Uses)

(silica sol-hydrolyzed organosilane **antifogging coatings** contg., for agricultural films)

IT 1067-53-4D, hydrolyzed in aq. silica sols  
 1112-39-6D, hydrolyzed in aq. silica sols

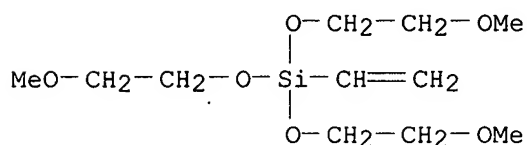
1185-55-3D, hydrolyzed in aq. silica sols  
 2031-67-6D, hydrolyzed in aq. silica sols  
 2530-85-0D, hydrolyzed in aq. silica sols  
 4420-74-0D, hydrolyzed in aq. silica sols  
 18171-19-2D, hydrolyzed in aq. silica sols  
 23779-32-0D, hydrolyzed in aq. silica sols  
 25512-39-4D, hydrolyzed in aq. silica sols  
 65799-47-5D, hydrolyzed in aq. silica sols

RL: USES (Uses)

(antifogging coatings, contg. alkylammonium salts,  
 for agricultural films)

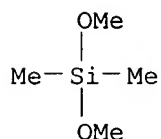
RN 1067-53-4 HCAPLUS

CN 2,5,7,10-Tetraoxa-6-silaundecane, 6-ethenyl-6-(2-methoxyethoxy)- (9CI)  
 (CA INDEX NAME)



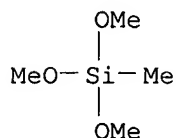
RN 1112-39-6 HCAPLUS

CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



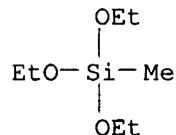
RN 1185-55-3 HCAPLUS

CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



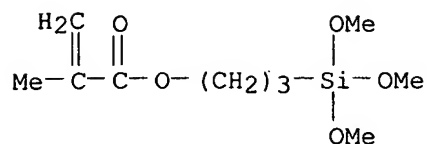
RN 2031-67-6 HCAPLUS

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)

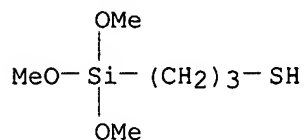


RN 2530-85-0 HCAPLUS

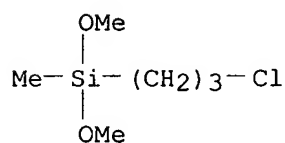
CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



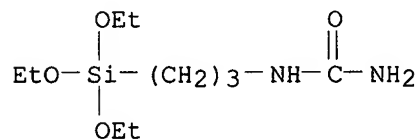
RN 4420-74-0 HCAPLUS  
CN 1-Propanethiol, 3-(trimethoxysilyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



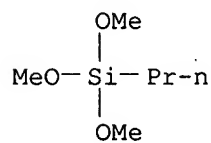
RN 18171-19-2 HCAPLUS  
CN Silane, (3-chloropropyl)dimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 23779-32-0 HCAPLUS  
CN Urea, [3-(triethoxysilyl)propyl]- (8CI, 9CI) (CA INDEX NAME)

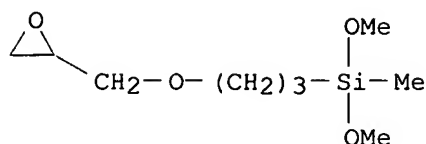


RN 25512-39-4 HCAPLUS  
CN Silane, (chloropropyl)trimethoxy- (8CI, 9CI) (CA INDEX NAME)



D1-Cl

RN 65799-47-5 HCAPLUS  
CN Silane, dimethoxymethyl[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L32 ANSWER 32 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1985:472396 HCAPLUS

DN 103:72396

TI Non-fogging coating composition and a shaped article coated with it

IN Funaki, Masaaki; Ohtani, Noboru; Yoshida, Motoaki; Fujioka, Akira; Sakiyama, Kazuo

PA Nippon Sheet Glass Co., Ltd. , Japan; Sumitomo Chemical Co., Ltd.

SO U.S., 17 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08K005-54

NCL 524114000

CC 38=3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4522966	A	19850611	US 1981-268106	19810528
	US 4594379	A	19860610	US 1985-724178	19850417
	US 32272	E	19861028	US 1985-809525	19851216
	US 4642266	A	19870210	US 1986-838280	19860310
PRAI	JP 1980-71747		19800529		
	JP 1980-71748		19800529		
	US 1981-268106		19810528		
	US 1985-724178		19850417		

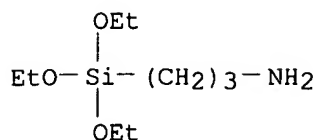
AB **Antifogging**, abrasion-resistant coatings for transparent shaped articles, e.g., of polycarbonates, are based on polyethylene glycol ethers with polyols, acrylic polymers contg. an epoxy side chain, and a crosslinking catalyst capable of ring-opening polymn., and optionally contains an epoxysilane hydrolyzate, an epoxy resin crosslinking agent, and a surfactant. The **coatings** can be applied as a top coat on a primer contg. an acrylic polymer having carboxyl, amine, or epoxy side chains and optionally contg. crosslinking agents and catalysts. Thus, the **compn.** contg. .gamma.-glycidyloxypropyltrimethoxysilane hydrolyzate 28.6, polyethylene glycol glycerol ether [31694-55-0] (mol. wt. 520) 50, glycidyl methacrylate-hydroxyethyl methacrylate copolymer [28472-86-8] (mol. wt. 20,000) 133.3, and NH<sub>4</sub>ClO<sub>4</sub> crosslinking catalyst 1.0 part was dild. with Et Cellosolve to give a 20-50%-solids soln., which was applied to a 3-mm diethylene glycol bis(allyl carbonate) polymer [25656-90-0] plate by immersion and heated 1 h at 130.degree. to give a **coating** exhibiting no **fogging** after cooling to -10.degree. and contacting with an atm. at 22.degree. and 60% relative humidity, no abrasion after strong rubbing with a brass-wire brush, and no change in appearance or abrasion resistance after 1 h in boiling **water**.

ST **antifogging** antiabrasion **coating** polycarbonate plate; polyoxyethylene ether **antifogging** **coating**; epoxy acrylic **antifogging** **coating**; acrylic epoxy **antifogging** **coating**; crosslinking catalyst acrylic

- antifogging coating; primer acrylic antifogging topcoating; ammonium perchlorate crosslinking catalyst coating; glycidyl acrylate copolymer antifogging coating; hydroxyethyl methacrylate copolymer antifogging coating; glycerol polyoxyethylene ether antifogging coating; glycidyloxypropylsilane hydrolyzate antifogging coating; water resistant antifogging acrylic coating
- IT Crosslinking catalysts  
(ammonium perchlorate and aluminum acetylacetonate, for acrylic polymer abrasion-resistant antifogging water-resistant coatings, for polycarbonate moldings)
- IT Polycarbonates  
RL: USES (Uses)  
(coatings for moldings of, abrasion-resistant antifogging water-resistant, acrylic polymer-polyethylene glycol ether-based)
- IT Crosslinking agents  
(epoxy resins, for acrylic polymer abrasion-resistant antifogging water-resistant coatings, for polycarbonate moldings)
- IT Surfactants  
(polyethylene glycol-based, for acrylic polymer abrasion-resistant antifogging water-resistant coatings, for polycarbonate moldings)
- IT Antifogging agents  
(coatings, abrasion- and water-resistant, acrylic polymer-polyethylene glycol ether-based, for polycarbonate moldings)
- IT Coating materials  
(primers, acrylic polymer, for acrylic polymer abrasion-resistant antifogging water-resistant topcoatings, for polycarbonate moldings)
- IT 2530-83-8D, hydrolyzates 3388-04-3D, hydrolyzates  
25322-68-3 31694-55-0 53694-15-8  
RL: USES (Uses)  
(acrylic coatings contg., abrasion-resistant antifogging water-resistant, for polycarbonate moldings)
- IT 7790-98-9 13963-57-0  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, for crosslinking acrylic polymer abrasion-resistant antifogging water-resistant coatings, on polycarbonate moldings)
- IT 102-71-6, uses and miscellaneous 109-55-7 12125-02-9, uses and miscellaneous  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, for crosslinking acrylic polymer primers for acrylic polymer abrasion-resistant antifogging water-resistant topcoatings, on polycarbonate moldings)
- IT 28472-86-8 40045-03-2 81545-62-2  
RL: USES (Uses)  
(coatings based on, abrasion-resistant antifogging water-resistant, for polycarbonate moldings)
- IT 25656-90-0  
RL: USES (Uses)  
(coatings for moldings of, abrasion-resistant antifogging water-resistant, acrylic polymer-polyethylene glycol ether-based)
- IT 25068-38-6 25085-98-7 31305-94-9 39317-73-2 42765-17-3  
72557-94-9  
RL: MOA (Modifier or additive use); USES (Uses)

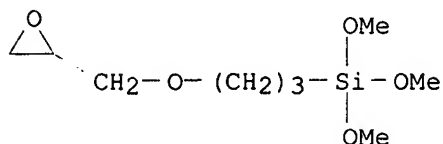






RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L32 ANSWER 33 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1985:63757 HCAPLUS

DN 102:63757

TI Antifogging compositions

PA Kuraray Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C09K003-18; C03C017-30; C08F008-12; C08L029-04

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59179684	A2	19841012	JP 1983-56902	19830331
	JP 02051473	B4	19901107		
	US 4567221	A	19860128	US 1984-587564	19840308
	EP 123927	A2	19841107	EP 1984-103549	19840330
	EP 123927	A3	19870715		
	EP 123927	B1	19900725		

R: DE, FR, GB

PRAI JP 1983-56902 19830331

JP 1983-56907 19830331

AB Antifogging comps. are prepd. from silyl group-contg. modified poly(vinyl alcs.) and inorg. substances. Thus, sapon. 0.5:99.5 (molar) trimethoxyvinylsilane-vinyl acetate copolymer was prepd., dissolved in water contg. 1.5% (based on the resin) NaOH to give a 10% soln., mixed (100 parts) with 50 parts Snowtex 20, coated on glass, dried, immersed in 0.5N H<sub>2</sub>SO<sub>4</sub>, washed, and heated 1 min at 150.degree. to form a coating having pencil hardness 7 H. The coating had better antifogging properties than a surfactant.

ST antifogging agent polyvinyl alc; sapon. methoxyvinylsilane vinyl acetate copolymer; vinylmethoxysilane vinyl acetate copolymer sapon; colloidal silica antifogging coating

IT Inorganic compounds

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, contg. silyl group-contg. modified poly(vinyl alc.), antifogging)

IT Antifogging agents

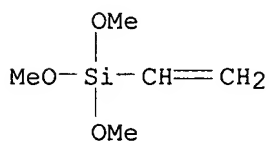
(coatings, contg. silyl group-contg. modified poly(vinyl

alc.) and inorg. substances)  
 IT 30850-72-7D, sapond. 31423-11-7D, sapond.  
 86368-72-1D, sapond. 94352-07-5D, sapond.  
 94557-80-9D, sapond. 94557-82-1D, sapond.  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, contg. colloidal silica, antifogging)  
 IT 471-34-1, uses and miscellaneous 1344-95-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, contg. silyl group-contg. modified poly(vinyl  
 alc.), antifogging)  
 IT 7631-86-9, uses and miscellaneous  
 RL: USES (Uses)  
 (colloidal, coatings, contg. silyl group-contg. modified  
 poly(vinyl alc.), antifogging)  
 IT 9003-20-7P  
 RL: PREP (Preparation)  
 (manuf. of, in presence of (trimethoxysilyl)propylmercaptan)  
 IT 4420-74-0  
 RL: USES (Uses)  
 (polymn. of vinyl acetate in presence of)  
 IT 1344-28-1, uses and miscellaneous  
 RL: USES (Uses)  
 (sols, coatings, contg. silyl group-contg. modified  
 poly(vinyl alc.), antifogging)  
 IT 30850-72-7D, sapond. 31423-11-7D, sapond.  
 86368-72-1D, sapond. 94352-07-5D, sapond.  
 94557-80-9D, sapond. 94557-82-1D, sapond.  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, contg. colloidal silica, antifogging)  
 RN 30850-72-7 HCAPLUS  
 CN Acetic acid ethenyl ester, polymer with ethenyltrimethoxysilane (9CI) (CA  
 INDEX NAME)

CM 1

CRN 2768-02-7

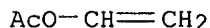
CMF C5 H12 O3 Si



CM 2

CRN 108-05-4

CMF C4 H6 O2

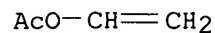


RN 31423-11-7 HCAPLUS

CN Acetic acid ethenyl ester, polymer with ethenyltriethoxysilane (9CI) (CA  
 INDEX NAME)

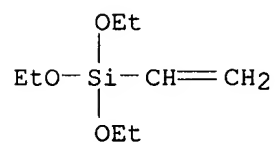
CM 1

CRN 108-05-4  
CMF C4 H6 O2



CM 2

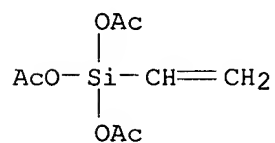
CRN 78-08-0  
CMF C8 H18 O3 Si



RN 86368-72-1 HCAPLUS  
CN Acetic acid ethenyl ester, polymer with ethenylsilylidyne triacetate (9CI)  
(CA INDEX NAME)

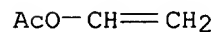
CM 1

CRN 4130-08-9  
CMF C8 H12 O6 Si



CM 2

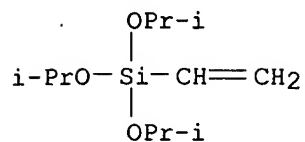
CRN 108-05-4  
CMF C4 H6 O2



RN 94352-07-5 HCAPLUS  
CN Acetic acid ethenyl ester, polymer with ethenyltris(1-methylethoxy)silane  
(9CI) (CA INDEX NAME)

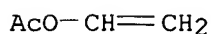
CM 1

CRN 18023-33-1  
CMF C11 H24 O3 Si



CM 2

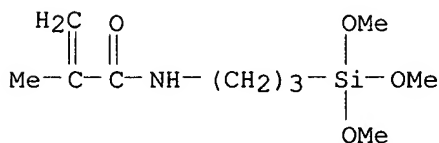
CRN 108-05-4  
CMF C4 H6 O2



RN 94557-80-9 HCAPLUS  
CN Acetic acid ethenyl ester, polymer with 2-methyl-N-[3-(trimethoxysilyl)propyl]-2-propenamide (9CI) (CA INDEX NAME)

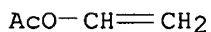
CM 1

CRN 10310-41-5  
CMF C10 H21 N O4 Si



CM 2

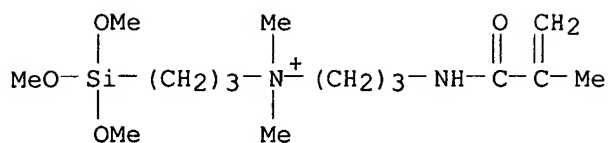
CRN 108-05-4  
CMF C4 H6 O2



RN 94557-82-1 HCAPLUS  
CN 1-Propanaminium, N,N-dimethyl-N-[3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]-3-(trimethoxysilyl)-, chloride, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 94557-81-0  
CMF C15 H33 N2 O4 Si . Cl

● Cl<sup>-</sup>

CM 2

CRN 108-05-4

CMF C4 H6 O2

AcO-CH=CH<sub>2</sub>

L32 ANSWER 34 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1984:492948 HCAPLUS

DN 101:92948

TI **Antifogging coatings**

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C09D005-00; B05D005-00; C03C017-32; C09D001-00; C09D003-12; C09D003-82;  
C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59058065	A2	19840403	JP 1982-168477	19820929
PRAI	JP 1982-168477		19820929		

AB **Antifogging coatings** with good hardness and durability contain **water-sol.** cellulose 100, powd. SiO<sub>2</sub> (av. particle diam. 5-200 .mu.) 1-400, alkoxyalkylsilanes (C-Si ratio 0.4-3:1) 0.5-200 parts. Thus, a 2.1-mm diethylene glycol bis(allyl carbonate) polymer [25656-90-0] lens treated with NaOH was coated with 1.2.mu. **compn** . (C-Si 0.73:1) contg. hydroxypropyl cellulose (I) [9004-64-2] 100, MeOH 52.0, .gamma.-glycidoxypropyltrimethoxysilane hydrolyzate (II) 15.6, 30% colloidal SiO<sub>2</sub> (particle size 12-14 .mu.) 100, and Al(acac)<sub>3</sub> (III) [13963-57-0] 2.2 g, dried at 90.degree. for 10 min, coated with 0.5 .mu. mixt. (C:Si 1.20:1) of I 133.0, MeOH 52.0, II 1.4, SiO<sub>2</sub> 64.0, and III 1.0 g, and cured at 130.degree. for 2 h. The **coating** had good appearance, hardness, adhesion, and **fogging** resistance.

ST hydroxypropyl cellulose **coating antifogging**; silane glycidylxy hydrolyzed **coating**; silica **coating antifogging**

IT Polycarbonates

RL: USES (Uses)

(lenses, **antifogging coatings** for)

IT Lenses

(polycarbonate, **antifogging coating** for)

IT Antifogging agents  
(siloxanes-cellulose ethers-silica, for lenses)

IT Antifogging agents  
(coatings, on polymer lenses)

IT 7631-86-9, uses and miscellaneous  
RL: USES (Uses)  
(colloidal, in antifogging coatings)

IT 2530-83-8D, hydrolyzed 2530-85-0D, hydrolyzed  
2897-60-1D, hydrolyzed 9004-62-0 9004-64-2 13963-57-0  
37208-08-5  
RL: USES (Uses)  
(in antifogging coatings)

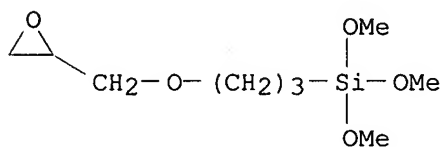
IT 25656-90-0  
RL: USES (Uses)  
(lenses, antifogging coating for)

IT 24936-68-3, uses and miscellaneous  
RL: USES (Uses)  
(lenses, antifogging coatings for)

IT 2530-83-8D, hydrolyzed 2530-85-0D, hydrolyzed  
2897-60-1D, hydrolyzed  
RL: USES (Uses)  
(in antifogging coatings)

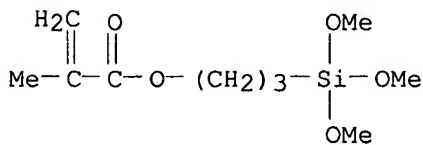
RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



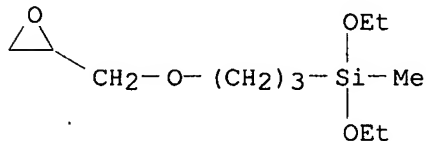
RN 2530-85-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



RN 2897-60-1 HCAPLUS

CN Silane, diethoxymethyl[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L32 ANSWER 35 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1984:70082 HCAPLUS

DN 100:70082

TI Antistatic **compositions** and sheet materials formed therefrom  
 IN Balchunis, Robert J.; Sher, Frank T.  
 PA Minnesota Mining and Mfg. Co. , USA  
 SO Eur. Pat. Appl., 47 pp.  
 CODEN: EPXXDW

DT Patent

LA English

IC C09D003-82

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 91741	A1	19831019	EP 1983-301525	19830318
	EP 91741	B1	19860604		
	R: DE, FR, GB, IT				
	US 4463114	A	19840731	US 1982-363870	19820331
	JP 58180564	A2	19831022	JP 1983-54972	19830330
	US 4532185	A	19850730	US 1984-608388	19840509
PRAI	US 1982-363870		19820331		

AB An **aq. compn.** contains a hydroxyorganosilane hydrolyzate, organosilanolsulfonic acid or its salt, and an acid catalyst. Upon curing, the **compn.** yields a conductive siloxane **coating** with antistatic, **antifogging**, and cation-exchange properties. Thus, **aq. soln.** of .gamma.-glycidoxypyrpyltrimethoxysilane hydrolyzate, (HO)3Si(CH2)3OCH2CH(OH)CH2SO3H [70869-38-4], and hexafluoroantimonic acid was applied to a poly(vinylidene chloride) [9002-85-1]-primed polyethylene terephthalate [25038-59-9] film and cured at 90.degree. for .gtoreq.30 min to give a film having surface resistivity 108-109 .OMEGA./cm2, adequate cation-exchange capacity (methylene blue absorption), and initial static decay time 0.04-0.6 s.

ST antistatic siloxane **coating**; **antifogging** siloxane

**coating**; cation exchange siloxane **coating**

IT Photographic emulsions

(antistatic siloxane underlayers for gelatin-contg.)

IT Acrylic fibers, uses and miscellaneous

RL: USES (Uses)

(**coatings** for, antistatic, siloxanes)

IT Cation exchangers

(**coatings**, antistatic, siloxanes)

IT Antistatic agents

(**coatings**, siloxanes)

IT Electric charge

(decay of, on siloxane antistatic **coatings**)

IT Crosslinking catalysts

(for siloxane antistatic **coatings**)

IT Polyamide fibers, uses and miscellaneous

RL: USES (Uses)

(6, **coatings** for, antistatic, siloxanes)

IT **Coating** materials

(abrasion-resistant, antistatic, siloxanes)

IT **Coating** materials

(abrasion-resistant, antistatic, siloxanes)

IT **Coating** materials

(antistatic, siloxanes)

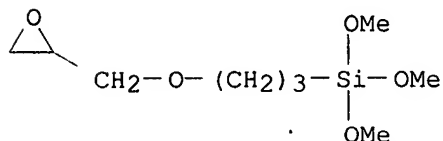
IT Abrasion-resistant materials

**Antifogging** agents

(**coatings**, antistatic, siloxanes)

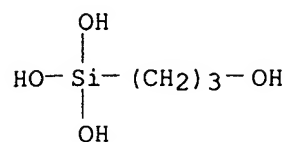
IT Adhesives

(pressure-sensitive, antistatic siloxane underlayers for)  
 IT Coating materials  
 (release, antistatic siloxane underlayers for)  
 IT Electric resistance  
 (surface, of siloxane antistatic coatings)  
 IT 113-00-8D, reaction products with silanols 2530-83-8D,  
 hydrolyzed 7060-82-4D, reaction products with silanols 10549-76-5D,  
 reaction products with silanols 15853-35-7D, reaction products with  
 silanols 16652-03-2D, reaction products with silanols 18379-20-9  
 53764-54-8D, hydrolyzed 59004-18-1D, hydrolyzed  
 70869-38-4 70942-24-4 77472-15-2  
 77472-17-4 77472-19-6 88683-97-0  
 88683-98-1 88684-00-8 88684-01-9  
 88684-02-0 88684-03-1 88684-04-2  
 88684-05-3 88684-06-4 88684-07-5  
 88684-08-6 88684-09-7 88684-10-0  
 88684-11-1 88684-12-2 88684-13-3  
 88684-14-4 88684-15-5 88684-16-6  
 88684-17-7 88684-18-8 88684-19-9  
 88684-20-2  
 RL: USES (Uses)  
 (coatings contg., antistatic)  
 IT 16950-06-4  
 RL: CAT (Catalyst use); USES (Uses)  
 (crosslinking catalysts, coatings contg. silanols and,  
 antistatic)  
 IT 25038-59-9, uses and miscellaneous  
 RL: USES (Uses)  
 (films, antistatic siloxane coatings for)  
 IT 9002-85-1  
 RL: USES (Uses)  
 (polyester films primed with, antistatic siloxane coatings  
 for)  
 IT 2530-83-8D, hydrolyzed 18379-20-9 53764-54-8D,  
 hydrolyzed 59004-18-1D, hydrolyzed 70869-38-4  
 70942-24-4 77472-15-2 77472-17-4  
 77472-19-6 88683-97-0 88683-98-1  
 88684-00-8 88684-01-9 88684-02-0  
 88684-03-1 88684-04-2 88684-05-3  
 88684-06-4 88684-07-5 88684-08-6  
 88684-09-7 88684-10-0 88684-11-1  
 88684-12-2 88684-13-3 88684-14-4  
 88684-15-5 88684-16-6 88684-17-7  
 88684-18-8 88684-19-9 88684-20-2  
 RL: USES (Uses)  
 (coatings contg., antistatic)  
 RN 2530-83-8 HCAPLUS  
 CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

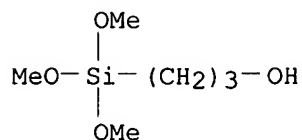


RN 18379-20-9 HCAPLUS  
 CN Silanetriol, (3-hydroxypropyl)- (9CI) (CA INDEX NAME)

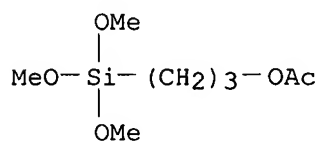




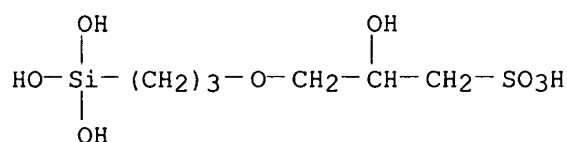
RN 53764-54-8 HCAPLUS  
CN 1-Propanol, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



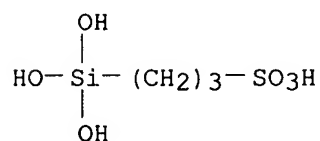
RN 59004-18-1 HCAPLUS  
CN 1-Propanol, 3-(trimethoxysilyl)-, acetate (9CI) (CA INDEX NAME)



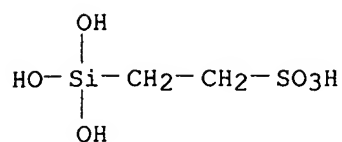
RN 70869-38-4 HCAPLUS  
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]- (9CI)  
(CA INDEX NAME)



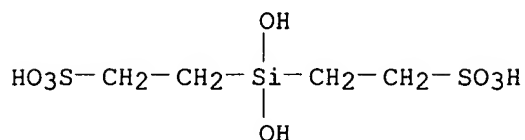
RN 70942-24-4 HCAPLUS  
CN 1-Propanesulfonic acid, 3-(trihydroxysilyl)- (9CI) (CA INDEX NAME)



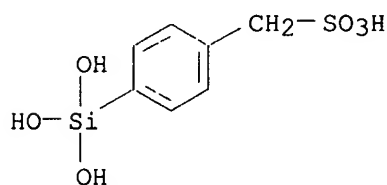
RN 77472-15-2 HCAPLUS  
CN Ethanesulfonic acid, 2-(trihydroxysilyl)- (9CI) (CA INDEX NAME)



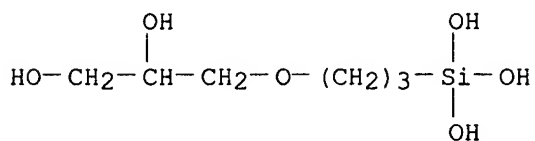
RN 77472-17-4 HCAPLUS  
CN Ethanesulfonic acid, 2,2'-(dihydroxysilylene)bis- (9CI) (CA INDEX NAME)



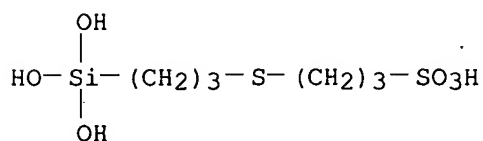
RN 77472-19-6 HCAPLUS  
CN Benzenemethanesulfonic acid, 4-(trihydroxysilyl)- (9CI) (CA INDEX NAME)



RN 88683-97-0 HCAPLUS  
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]- (9CI) (CA INDEX NAME)



RN 88683-98-1 HCAPLUS  
CN 1-Propanesulfonic acid, 3-[[3-(trihydroxysilyl)propyl]thio]- (9CI) (CA INDEX NAME)

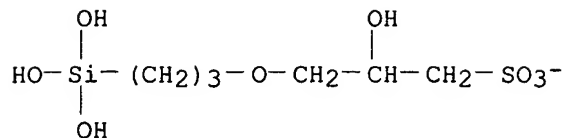


RN 88684-00-8 HCAPLUS  
CN Ethanaminium, 2-hydroxy-N,N,N-tris(2-hydroxyethyl)-, salt with 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-1-propanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 88683-99-2

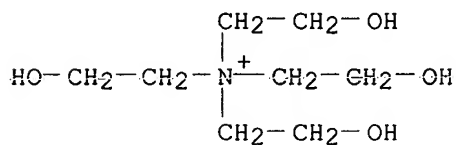
CMF C6 H15 O8 S Si



CM 2

CRN 26627-39-4

CMF C8 H20 N O4



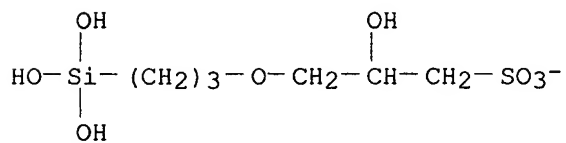
RN 88684-01-9 HCAPLUS

CN Benzenemethanaminium, N,N,N-trimethyl-, salt with 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-1-propanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 88683-99-2

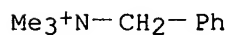
CMF C6 H15 O8 S Si



CM 2

CRN 14800-24-9

CMF C10 H16 N



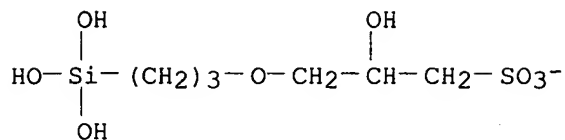
RN 88684-02-0 HCAPLUS

CN Methanaminium, N,N,N-trimethyl-, salt with 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-1-propanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 88683-99-2

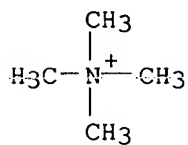
CMF C6 H15 O8 S Si



CM 2

CRN 51-92-3

CMF C4 H12 N



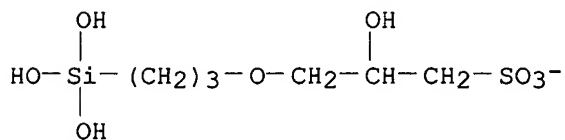
RN 88684-03-1 HCAPLUS

CN 1-Butanaminium, N,N,N-tributyl-, salt with 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-1-propanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 88683-99-2

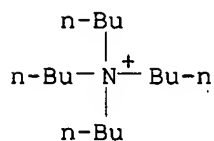
CMF C6 H15 O8 S Si



CM 2

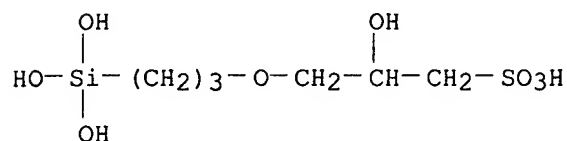
CRN 10549-76-5

CMF C16 H36 N



RN 88684-04-2 HCAPLUS

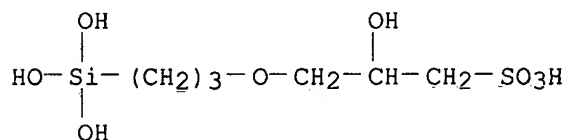
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 88684-05-3 HCAPLUS

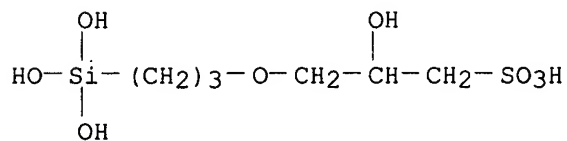
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, barium salt (2:1) (9CI) (CA INDEX NAME)



● 1/2 Ba

RN 88684-06-4 HCAPLUS

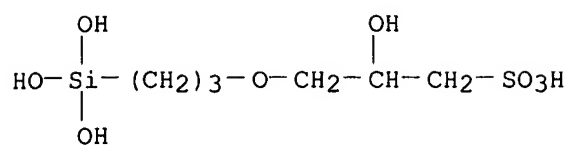
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, magnesium salt (2:1) (9CI) (CA INDEX NAME)



● 1/2 Mg

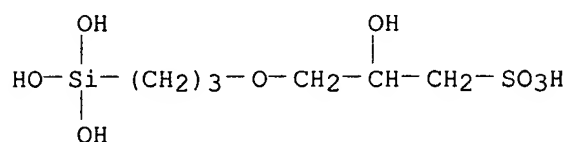
RN 88684-07-5 HCAPLUS

CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, zinc salt (2:1) (9CI) (CA INDEX NAME)



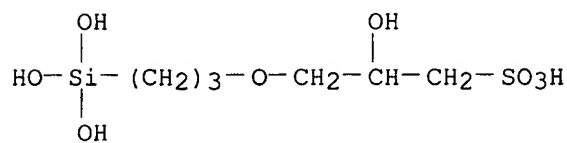
●1/2 Zn

RN 88684-08-6 HCAPLUS  
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, nickel(2+) salt (2:1) (9CI) (CA INDEX NAME)



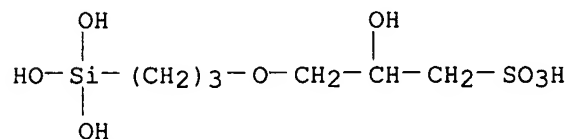
●1/2 Ni(II)

RN 88684-09-7 HCAPLUS  
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, cobalt(2+) salt (2:1) (9CI) (CA INDEX NAME)



●1/2 Co(II)

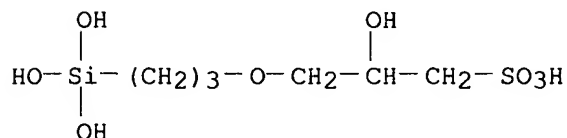
RN 88684-10-0 HCAPLUS  
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, copper(2+) salt (2:1) (9CI) (CA INDEX NAME)



1/2 Cu(II)

RN 88684-11-1 HCAPLUS

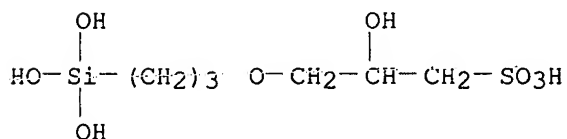
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, lead(2+) salt (2:1) (9CI) (CA INDEX NAME)



● 1/2 Pb(II)

RN 88684-12-2 HCAPLUS

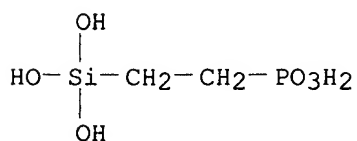
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, cadmium salt (2:1) (9CI) (CA INDEX NAME)



● 1/2 Cd

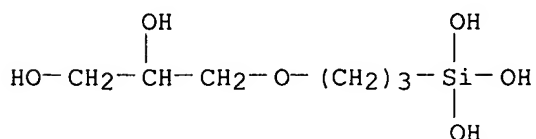
RN 88684-13-3 HCAPLUS

CN Phosphonic acid, [2-(trihydroxysilyl)ethyl]- (9CI) (CA INDEX NAME)



RN 88684-14-4 HCAPLUS

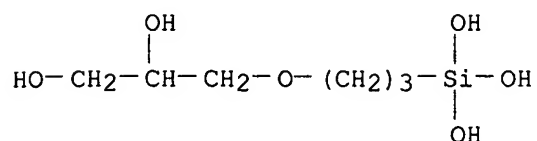
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, sodium salt (9CI) (CA INDEX NAME)



x Na

RN 88684-15-5 HCAPLUS

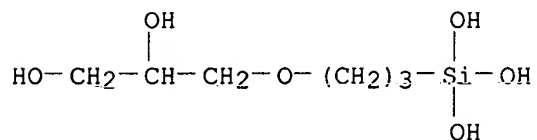
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, silver(1+) salt (9CI) (CA INDEX NAME)



●x Ag(I)

RN 88684-16-6 HCAPLUS

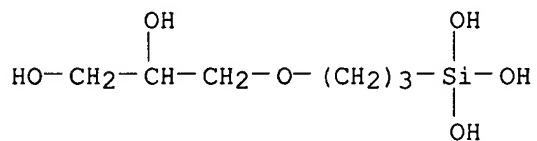
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, magnesium salt (9CI) (CA INDEX NAME)



●x Mg

RN 88684-17-7 HCAPLUS

CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, copper(2+) salt (9CI) (CA INDEX NAME)

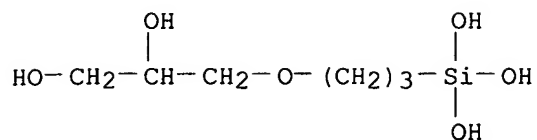


●x Cu(II)

RN 88684-18-8 HCAPLUS

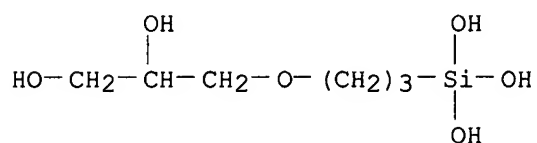
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, manganese(2+) salt (9CI) (CA INDEX NAME)





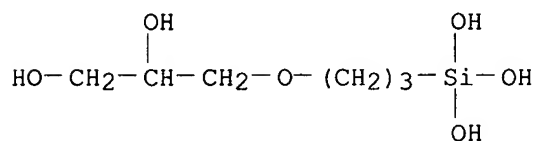
●x Mn(II)

RN 88684-19-9 HCAPLUS  
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, iron(3+) salt (9CI) (CA INDEX NAME)



●x Fe(III)

RN 88684-20-2 HCAPLUS  
CN Silanetriol, [3-(2,3-dihydroxypropoxy)propyl]-, chromium(3+) salt (9CI) (CA INDEX NAME)



●x Cr(III)

L32 ANSWER 36 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
AN 1983:541657 HCAPLUS  
DN 99:141657  
TI **Coating compositions**  
PA Unitika Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC C09D003-82  
CC 42-10 (Coatings, Inks, and Related Products)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 58057471	A2	19830405	JP 1981-155787	19810929

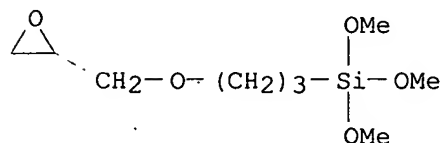
PRAI JP 1981-155787 19810929

- AB **Antifogging coating** compns. contain hydrolyzed aminosilane-alkylene oxide adducts and organoalkoxysilanes in ratio 5:95-95:5. Thus, 1:10 (molar) N-.beta.-(aminoethyl)-.gamma.-aminopropyltrimethoxysilane-ethylene oxide adduct [87323-43-1] 30, MeSi(OMe)<sub>3</sub> (I) [1185-55-3] 60, and iso-PrOH 60 parts were stirred, mixed with 30 parts water contg. 1 part AcOH, stirred 3 h, allowed to stand 3 days, coated on a degreased polycarbonate by dipping, dried, and heated 30 min in a hot air drier at 150.degree. to form a **coating** having good abrasion resistance, adhesion, solvent resistance, and **antifogging** properties. A **coating** of hydrolyzed I did not have **antifogging** properties.
- ST **antifogging coating** siloxane polycarbonate; hydrolysis polymn aminosilane alkoxysilane
- IT Polycarbonates  
RL: USES (Uses)  
(antifogging agents for, siloxanes as)
- IT Siloxanes and Silicones, uses and miscellaneous  
RL: USES (Uses)  
(antifogging agents, for polycarbonates)
- IT Hydrolysis  
(polymn. and, of aminosilane-ethylene oxide adducts with alkoxysilanes, for **antifogging coatings**)
- IT Antifogging agents  
(**coatings**, contg. siloxanes, for polycarbonates)
- IT Polymerization  
(hydrolytic, of aminosilane-ethylene oxide adducts with alkoxysilanes, for **antifogging coatings**)
- IT 25038-54-4, uses and miscellaneous  
RL: USES (Uses)  
(antifogging agents for, siloxanes as)
- IT 2530-83-8 2530-85-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with (aminoethyl)aminopropyltrimethoxysilane-ethylene oxide adduct and methyltrimethoxysilane, for **antifogging coatings**)
- IT 1185-55-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with (aminoethyl)aminopropyltrimethoxysilane-ethylene oxide adduct, for **antifogging coatings**)
- IT 1760-24-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with (aminoethyl)aminopropyltrimethoxysilane-ethylene oxide adduct, glycidoxypropyltrimethoxysilane, and methyltrimethoxysilane, for **antifogging coatings**)
- IT 10193-36-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with aminopropyltriethoxysilane-ethylene oxide adduct and methyltrimethoxysilane, for **antifogging coatings**)
- IT 85594-34-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with methyltrimethoxysilane and tetrahydroxysilane, for **antifogging coating** compns.)
- IT 87323-43-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with methyltrimethoxysilane, for **antifogging coating** compns.)
- IT 2530-83-8 2530-85-0

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrolytic polymn. of, with (aminoethyl)aminopropyltrimethoxysilane-  
 ethylene oxide adduct and methyltrimethoxysilane, for  
**antifogging coatings**)

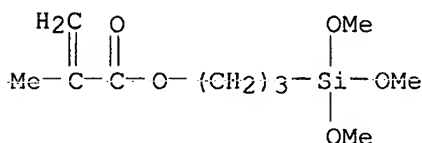
RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 2530-85-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)

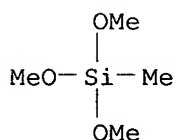


IT 1185-55-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrolytic polymn. of, with (aminoethyl)aminopropyltrimethoxysilane-  
 ethylene oxide adduct, for **antifogging coatings**)

RN 1185-55-3 HCAPLUS

CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

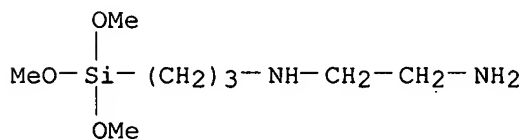


IT 1760-24-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrolytic polymn. of, with (aminoethyl)aminopropyltrimethoxysilane-  
 ethylene oxide adduct, glycidoxypentyltrimethoxysilane, and  
 methyltrimethoxysilane, for **antifogging coatings**)

RN 1760-24-3 HCAPLUS

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



IT 85594-34-9

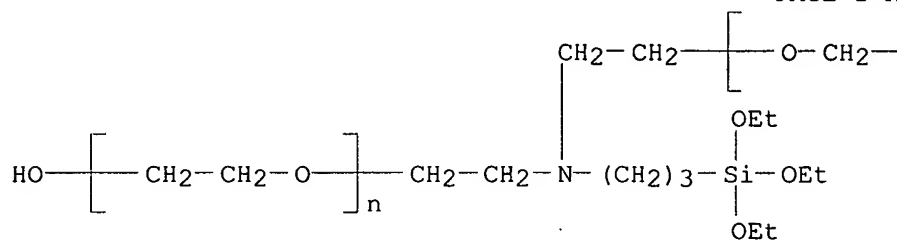
RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrolytic polymn. of, with methyltrimethoxysilane and tetrahydroxysilane, for antifogging coating compns.)

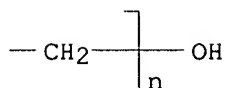
RN 85594-34-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[[[3-(triethoxysilyl)propyl]imino]di-2,1-ethanediyl]bis[.omega.-hydroxy- (9CI)  
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



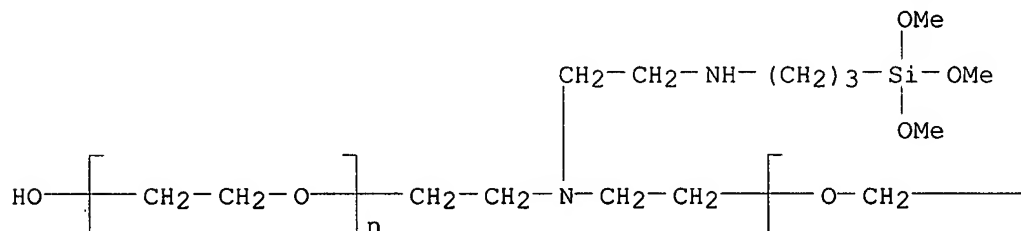
IT 87323-43-1

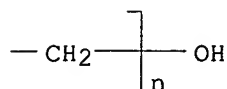
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrolytic polymn. of, with methyltrimethoxysilane, for antifogging coating compns.)

RN 87323-43-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[[[2-[[3-(trimethoxysilyl)propyl]amino]ethyl]imino]di-2,1-ethanediyl]bis[.omega.-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A





L32 ANSWER 37 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1982:618175 HCAPLUS

DN 97:218175

TI **Antifogging coatings**

PA Mitsubishi Petrochemical Co., Ltd., Japan

SO Jpn. Kokai Tokyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C09K003-18

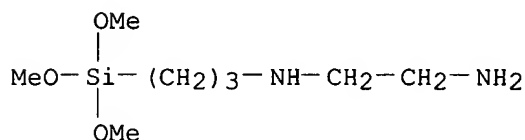
ICA C03C017-30

CC 42-10 (Coatings, Inks, and Related Products)

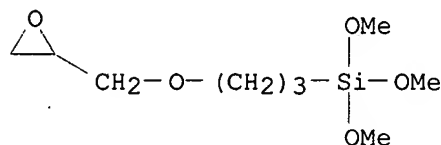
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57098578	A2	19820618	JP 1980-174577	19801212
	JP 63045717	B4	19880912		
PRAI	JP 1980-174577		19801212		
AB	<b>Antifogging coating</b> compns. contain hydrophilic, inorg. colloids, surfactants, and Li silicate and/or functional alkoxy silanes in H <sub>2</sub> O and/or alcs. For example, a mixt. of colloidal silica 80, [3-ureidopropyl]triethoxysilane [23779-32-0] 5, and Safron S 113 [76199-70-7] anionic surfactant 15 parts was dispersed in water to give a 2% dispersion storable for >1 yr. The compn. was sprayed on a low-d. polyethylene [9002-88-4] agricultural film and dried at 60.degree. to give a film resistant to fogging for >6 mo, compared with 40 days without the silane.				
ST	polyethylene coating antifogging; silane coating antifogging; surfactant coating antifogging; lithium silicate coating antifogging				
IT	Surfactants (anionic, in antifogging coatings)				
IT	Antifogging agents (coatings, colloidal oxides-lithium silicate-silanes)				
IT	Surfactants (nonionic, in antifogging coatings)				
IT	9002-88-4 RL: USES (Uses) (agricultural films, antifogging coatings for)				
IT	1344-28-1, uses and miscellaneous 7631-86-9, uses and miscellaneous RL: USES (Uses) (colloidal, in antifogging coatings)				
IT	1760-24-3	2530-83-8	9002-92-0	9004-81-3	9004-96-0
	9016-45-9	12627-14-4	23779-32-0	31681-13-7	
	76199-70-7				

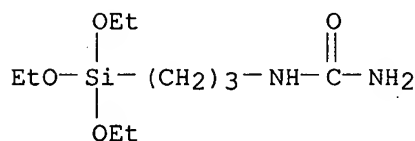
RL: USES (Uses)  
 (in antifogging coatings)  
 IT 1760-24-3 2530-83-8 23779-32-0  
 31681-13-7  
 RL: USES (Uses)  
 (in antifogging coatings)  
 RN 1760-24-3 HCAPLUS  
 CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



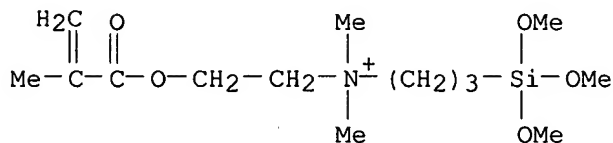
RN 2530-83-8 HCAPLUS  
 CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 23779-32-0 HCAPLUS  
 CN Urea, [3-(triethoxysilyl)propyl]- (8CI, 9CI) (CA INDEX NAME)



RN 31681-13-7 HCAPLUS  
 CN 1-Propanaminium, N,N-dimethyl-N-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]-3-(trimethoxysilyl)-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

L32 ANSWER 38 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1982:494112 HCAPLUS  
 DN 97:94112

TI **Antifogging coating film**  
 IN Taniguchi, Takashi; Mibae, Jiro  
 PA Toray Industries, Inc., Japan  
 SO Eur. Pat. Appl., 38 pp..  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC C09D003-74; C08L029-04; C09K003-18; C03C017-28  
 CC 42-10 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 51405	A1	19820512	EP 1981-304987	19811022
	EP 51405	B1	19850130		
	R: DE, FR, GB				
	JP 57071669	A2	19820504	JP 1980-148284	19801024
	JP 59051867	B4	19841217		
	JP 57072856	A2	19820507	JP 1980-149377	19801027
	JP 01037268	B4	19890804		
	US 4478909	A	19841023	US 1981-313168	19811020
	CA 1159730	A1	19840103	CA 1981-388609	19811023
PRAI	JP 1980-148284		19801024		
	JP 1980-149377		19801027		

AB **Antifogging coatings** having good surface hardness and durability contain poly(vinyl alc.), fine SiO<sub>2</sub>, and hydrolyzable Si compds., having a C-S ratio such that it is higher on the film surface than in bulk. Thus, adding 54 g 0.01 N HCl dropwise to 236 g glycidyl 3-(trimethoxysilyl)propyl ether stirred at 10.degree. gave a hydrolyzate. A mixt. of this **compn.** 10.4, 15% aq. poly(vinyl alc.) (AL-06) 250, 30% MeOH dispersion of colloidal SiO<sub>2</sub> (Cataloid S) 105, H<sub>2</sub>O 28, dioxane 105, fluorinated surfactant 0.24, and Al(acac)<sub>3</sub> 1.5 g was coated (4 .mu., dry basis) on a CR-39 lens, which was then dried, coated (0.5 .mu.) with a similar **compn.** free of silane hydrolyzate, and baked 2 h at 130.degree.. The **coating** had C-Si ratio in the surface layer and bulk 2.5:1 and 1.7:1, resp., good adhesion, appearance, and H<sub>2</sub>O resistance, and showed no **fogging** when breathed upon after 1 day at 50% relative humidity.

ST **fogging resistance coating; polyvinyl alc coating antifogging; silane hydrolyzed coating antifogging; silica filler coating antifogging; glycidyl silylalkyl ether coating**

IT **Antifogging agents**  
 (coatings, contg. poly(vinyl alc.) and hydrolyzed silanes)

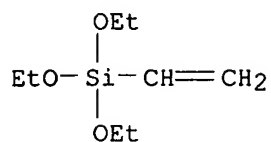
IT 78-08-0D, hydrolyzed 1185-55-3D, hydrolyzed 2530-83-8D, hydrolyzed 2897-60-1D, hydrolyzed 3388-04-3D, hydrolyzed  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, contg. poly(vinyl alc.), **antifogging**)

IT 7631-86-9, uses and miscellaneous  
 RL: USES (Uses)  
 (fillers, for **antifogging coatings** contg. poly(vinyl alc.))

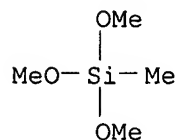
IT 78-08-0D, hydrolyzed 1185-55-3D, hydrolyzed 2530-83-8D, hydrolyzed 2897-60-1D, hydrolyzed 3388-04-3D, hydrolyzed  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, contg. poly(vinyl alc.), **antifogging**)

RN 78-08-0 HCAPLUS

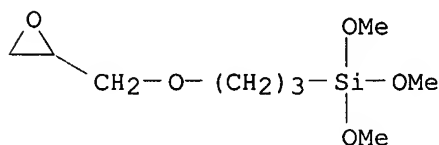
CN Silane, ethenyltriethoxy- (9CI) (CA INDEX NAME)



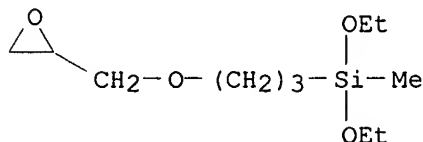
RN 1185-55-3 HCAPLUS  
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



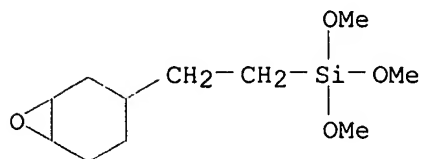
RN 2530-83-8 HCAPLUS  
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 2897-60-1 HCAPLUS  
CN Silane, diethoxymethyl[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 3388-04-3 HCAPLUS  
CN Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]- (7CI, 8CI, 9CI)  
(CA INDEX NAME)



L32 ANSWER 39 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
AN 1981:499444 HCAPLUS  
DN 95:99444  
TI Antifogging resin coating compositions  
PA Suwa Seikosha Co., Ltd., Japan



SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C09D005-00; C08F008-12; C08F230-08; C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

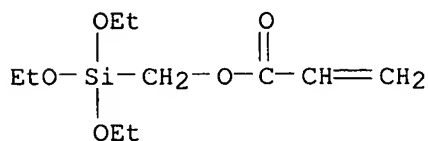
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56043367	A2	19810422	JP 1979-119810	19790918
PRAI	JP 1979-119810		19790918		
AB	(Methacryloxyethyl)trimethoxysilane-triallyl cyanurate copolymer or (acryloxymethyl)triethoxysilane-triallyl cyanurate copolymer is coated on a transparent substrate, hardened, and hydrolyzed to form antifogging coatings having good hardness. Thus, (methacryloxyethyl)trimethoxysilane 70, triallyl cyanurate 29, and Bz202 1% were heated at 70.degree. for 1 h, mixed (10 parts) with 40 parts toluene and 0.5 part benzil, coated on a poly(diallyl diethylene glycol carbonate) [25656-90-0] board treated with 20% aq. NaOH for 10 min, irradiated with UV for 2 h, and hydrolyzed 3 h in 0.2% aq. HCl at 50.degree. to form a coating having pencil hardness 4 H and nonfogging when in contact with the breath outdoors at 5.degree..				
ST	polycarbonate antifogging hard coating; methacryloxyethylsilane allyl cyanurate copolymer coating; silane polymer coating antifogging				
IT	Polycarbonates RL: USES (Uses) (antifogging agent for, hydrolyzed (methacryloxyethyl)trimethoxysilane-triallyl cyanurate copolymer as, hard)				
IT	Antifogging agents (hydrolyzed (methacryloxyethyl)trimethoxysilane-triallyl cyanurate copolymer, on polycarbonates, hard)				
IT	25656-90-0 RL: USES (Uses) (antifogging agent for, hydrolyzed (methacryloxyethyl)trimethoxysilane-triallyl cyanurate copolymer as, hard)				
IT	78884-72-7D, hydrolyzed 78884-73-8D, hydrolyzed RL: TEM (Technical or engineered material use); USES (Uses) (coatings, on polycarbonates, antifogging and hard)				
IT	78884-72-7D, hydrolyzed 78884-73-8D, hydrolyzed RL: TEM (Technical or engineered material use); USES (Uses) (coatings, on polycarbonates, antifogging and hard)				
RN	78884-72-7 HCAPLUS				
CN	2-Propenoic acid, (triethoxysilyl)methyl ester, polymer with 2,4,6-tris(2-propenyloxy)-1,3,5-triazine (9CI) (CA INDEX NAME)				

CM 1

CRN 78884-71-6

CMF C10 H20 O5 Si





PI	JP 56008464	A2	19810128	JP 1979-82693	19790702
	JP 61047179	B4	19861017		
PRAI	JP 1979-82693		19790702		

AB The compns. comprise hydrolyzed organoalkoxysilanes, ethoxylated polyhydric alcs., and hardening catalysts. Thus, 100 parts [.gamma.-(methacryloyloxy)propyl]trimethoxysilane was hydrolyzed in 70 parts iso-PrOH contg. 30 parts 0.1N HCl for 5 h, mixed (75 parts), with poly(oxyethylene) sorbitol ether [53694-15-8] 15, iso-PrOH contg. 10% (iso-PrO)<sub>4</sub>Ti [546-68-9] 5, Bz2O2 0.8, and Bu Cellosolve 5 parts, coated on a bisphenol A polycarbonate [25971-63-5] primed with 2-hydroxyethyl methacrylate-(dimethylamino)ethyl methacrylate copolymer, and heated at 130-40.degree. under N to form a **coating** having cross-cut adhesion 100/100, pencil hardness 6H, good **antifogging** properties, and good **water** resistance.

ST hydrolyzed silane methacryloyl **coating**; sorbitol ethoxylated **coating**; isopropyl titanate crosslinking catalyst; **antifogging coating** polycarbonate

IT Polycarbonates  
RL: USES (Uses)  
(**antifogging** agents for, oxyethylated sorbitol contg. hydrolyzed [(methacryloyloxy)propyl]trimethoxysilane and tetraisopropyl titanate as)

IT **Antifogging agents**  
(oxyethylated sorbitol, contg. hydrolyzed [(methacryloyloxy)propyl]trimethoxysilane and tetraisopropyl titanate, for polycarbonates)

IT Crosslinking catalysts  
(tetraisopropyl titanate, for **antifogging coatings** contg. hydrolyzed [(methacryloyloxy)propyl]trimethoxysilane and oxyethylated sorbitol)

IT 24936-68-3, uses and miscellaneous 25971-63-5  
RL: USES (Uses)  
(**antifogging** agents for, oxyethylated sorbitol contg. hydrolyzed [(methacryloyloxy)propyl]trimethoxysilane and tetraisopropyl titanate as)

IT 53694-15-8  
RL: USES (Uses)  
(**antifogging coating** compns., contg. hydrolyzed [(methacryloyloxy)propyl]trimethoxysilane and tetraisopropyl titanate)

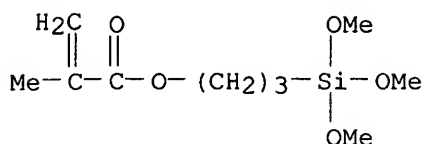
IT 2530-85-0D, hydrolyzed  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**coatings, antifogging**, contg. oxyethylated sorbitol and tetraisopropyl titanate, for polycarbonates)

IT 546-68-9  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, for **antifogging coatings** contg. hydrolyzed [(methacryloyloxy)propyl]trimethoxysilane and oxyethylated sorbitol)

IT 2530-85-0D, hydrolyzed  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**coatings, antifogging**, contg. oxyethylated sorbitol and tetraisopropyl titanate, for polycarbonates)

RN 2530-85-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



L32 ANSWER 41 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1980:95728 HCAPLUS

DN 92:95728

TI Thermosetting resin **compositions** for hard transparent **coatings**

IN Kaetsu, Isao; Kumakura, Minoru; Yoshida, Masaru; Urabe, Masanobu; Shimaoka, Goro

PA Japan Atomic Energy Research Institute, Japan; Mitsubishi Gas Chemical Co., Inc.; Nippon Kogaku K. K.

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C08G059-14

CC 42-8 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 54129095	A2	19791006	JP 1978-37295	19780330
PRAI	JP 1978-37295		19780330		

AB Hydrolysis of QOZSi(OR)<sub>3</sub> (Q = glycidyl; Z = C1-6 alkylene; R = C1-4 alkyl) mixed with Q(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>OMe and(or) Q(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>OQ gives a thermosetting **compn.** which cures to a scratch-resistant, antifogging **coating** for plastic lenses. Thus, a mixt. of polyethylene glycol diglycidyl ether (av. d.p. .apprx. 9) 10, [3-(glycidyoxy)propyl]trimethoxysilane 40, H<sub>2</sub>O 15, p-dioxane 50, and HClO<sub>4</sub> 0.5 part was heated 4 h at 50.degree. and the resulting resin was coated on poly[diethylene glycol bis(allyl carbonate)] [25656-90-0] and cured 2 h at 110.degree.. The hardened surface was unscratched by #0000 steel wool and had good adhesion and antifogging properties.

ST epoxysilane hydrolyzate transparent **coating**; scratch resistance transparent **coating**; antifogging transparent **coating**; plastic lens hard **coating**; polyethylene glycol diglycidyl ether; glycidyl ether polyethylene glycol; glycidoxypropyltrimethoxysilane hydrolysis copolymn

IT Glass substitutes

RL: USES (Uses)

(antifogging **coatings** for, scratch-resistant, form polyethylene glycol glycidyl ethers and hydrolyzed (glycidoxyalkyl)trialkoxysilanes)

IT Antifogging agents

(**coatings**, epoxy-silane, scratch-resistant, for glass substitutes)

IT 72892-40-1D, hydrolyzed

RL: USES (Uses)

(antifogging **coatings**, scratch-resistant, for glass substitutes)

IT 25656-90-0

RL: USES (Uses)

(glass substitutes, scratch-resistant antifogging **coatings** for)

IT 72892-40-1D, hydrolyzed

RL: USES (Uses)

(antifogging coatings, scratch-resistant, for glass substitutes)

RN 72892-40-1 HCAPLUS

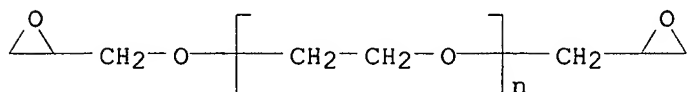
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26403-72-5

CMF (C2 H4 O)n C6 H10 O3

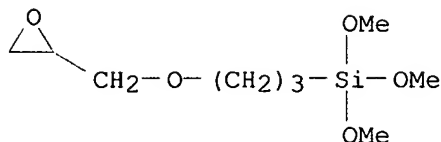
CCI PMS



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si



L32 ANSWER 42 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1980:95727 HCAPLUS

DN 92:95727

TI Thermosetting resin compositions for hard transparent coatings

IN Kaetsu, Isao; Kumakura, Minoru; Yoshida, Masaru; Urabe, Masanobu; Shimaoka, Goro

PA Japan Atomic Energy Research Institute, Japan; Mitsubishi Gas Chemical Co., Inc.; Nippon Kogaku K. K.

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C08G059-14

CC 42-8 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 54129096	A2	19791006	JP 1978-37298	19780330
PRAI	JP 1978-37298		19780330		

AB Hydrolysis of a mixt. of a polyethylene glycol diglycidyl ether (I), QOZSi(OR)<sub>3</sub> (Q = glycidyl; Z = C1-6 alkylene; R = C1-4 alkyl), and RmSi(OR)<sub>1</sub>n (R1 = C1-6 alkyl; m = 0-3; n = 4-m) gives a thermosetting compn. which cures to a scratch-resistant, antifogging

coating for plastic lenses. Thus, a mixt. of [3-(glycidioxy)propyl]trimethoxysilane 25, I (d.p. 14) 40, Si(OMe)<sub>4</sub> 5, MeSi(OMe)<sub>3</sub> 5, HClO<sub>4</sub> 0.1, H<sub>2</sub>O 25, and EtOCH<sub>2</sub>CH<sub>2</sub>OH 100 parts was heated to 60.degree. and the resulting liq. coated on CR 39 [25656-90-0] and cured 2 h at 110.degree.. The hardened surface was unscratched by #0000 steel wool, was colorless and transparent, and showed excellent adhesion and antifogging properties.

ST epoxysilane hydrolyzate transparent **coating**; scratch resistance transparent **coating**; antifogging transparent **coating**; plastic lens hard **coating**; polyethylene glycol diglycidyl ether; glycidyl ether polyethylene glycol; glycidioxypropyltrimethoxysilane hydrolysis copolymn; polysiloxane epoxy resin copolymer

IT Glass substitutes

RL: USES (Uses)

(antifogging **coatings** for, scratch-resistant, epoxy-silicone compns. as)

IT Antifogging agents

(**coatings**, epoxy-silicone, scratch-resistant, for glass substitutes)

IT Siloxanes and Silicones, uses and miscellaneous

RL: USES (Uses)

(epoxy, antifogging **coatings**, scratch-resistant, for glass substitutes)

IT 72896-16-3

RL: USES (Uses)

(antifogging **coatings**, scratch-resistant, for glass substitutes)

IT 25656-90-0

RL: USES (Uses)

(glass substitutes, scratch-resistant antifogging **coatings** for)

IT 72896-16-3

RL: USES (Uses)

(antifogging **coatings**, scratch-resistant, for glass substitutes)

RN 72896-16-3 HCAPLUS

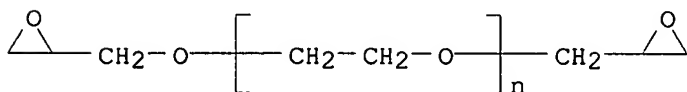
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)poly(oxy-1,2-ethanediyl), trimethoxymethylsilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 26403-72-5

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>6</sub> H<sub>10</sub> O<sub>3</sub>

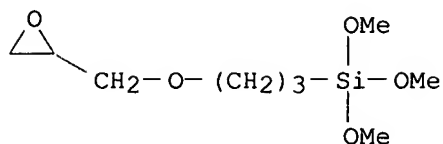
CCI PMS



CM 2

CRN 2530-83-8

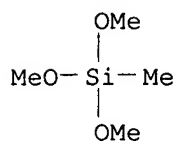
CMF C<sub>9</sub> H<sub>20</sub> O<sub>5</sub> Si



CM 3

CRN 1185-55-3

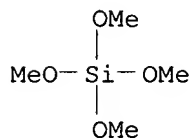
CMF C4 H12 O3 Si



CM 4

CRN 681-84-5

CMF C4 H12 O4 Si



L32 ANSWER 43 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1980:78299 HCAPLUS

DN 92:78299

TI **Coating** materials for transparent plastics moldings

IN Kaetsu, Isao; Kumakura, Minoru; Yoshida, Masaru; Urabe, Masanobu

PA Japan Atomic Energy Research Institute, Japan; Nippon Kogaku K. K.

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C08G077-26

CC 42-10 (Coatings, Inks, and Related Products)

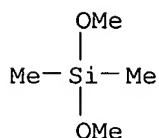
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 54119598	A2	19790917	JP 1978-27496	19780310
PRAI	JP 1978-27496		19780310		

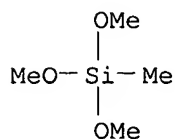
AB Comps. of hydrolyzed aminoalkyltrialkoxysilane, vinyltrialkoxysilane or (meth)acryloyloxyalkyltrialkoxysilane, polyalkoxysilane, and copolymers from (meth)acrylate esters and vinylpyrrolidinone are applied to transparent plastics to form scratch-resistant **coatings**. Thus, a mixt. of 3-(2-aminoethylamino)propyltrimethoxysilane 17, 3-(methacryloyloxy)propyltrimethoxysilane 17, methyltrimethoxysilane 6, H2O 10, EtOH 50, and HCl 0.05 part was left 3 days at room temp.

to give a siloxane soln. A **compn.** of 50 parts of the above soln. and 10 parts of 30% solids 1:1:1 acrylic acid-2-hydroxyethyl methacrylate-methacrylic acid copolymer [72642-08-1] soln. in MeOH was applied to a CR 39 [25656-90-0] sheet and heated at 115.degree. to form an **antifogging coating**.

- ST hydrolyzed silane copolymer **coating**; transparent plastic molding **coating**; **antifogging coating** acrylic polymer
- IT Siloxanes and Silicones, uses and miscellaneous  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**coatings**, contg. hydroxy group-contg. acrylic polymers, for transparent plastic moldings)
- IT **Antifogging** agents  
(hydroxy group-contg. acrylic polymers, for transparent plastic moldings)
- IT 29612-57-5 72642-08-1  
RL: USES (Uses)  
(**antifogging** agents, hydrolyzed silane copolymer **coatings** contg., for transparent plastic moldings)
- IT 25656-90-0  
RL: USES (Uses)  
(**coatings** for, hydrolyzed silane copolymers and hydroxy group-contg. acrylic polymers as)
- IT 1112-39-6D, hydrolyzed, copolymers 1185-55-3D, hydrolyzed, copolymers 1760-24-3D, hydrolyzed, copolymers 2530-85-0D, hydrolyzed, copolymers 2768-02-7D, hydrolyzed, copolymers  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**coatings**, contg. hydroxy group-contg. acrylic polymers, for transparent plastic moldings)
- IT 1112-39-6D, hydrolyzed, copolymers 1185-55-3D, hydrolyzed, copolymers 1760-24-3D, hydrolyzed, copolymers 2530-85-0D, hydrolyzed, copolymers 2768-02-7D, hydrolyzed, copolymers  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**coatings**, contg. hydroxy group-contg. acrylic polymers, for transparent plastic moldings)
- RN 1112-39-6 HCAPLUS
- CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

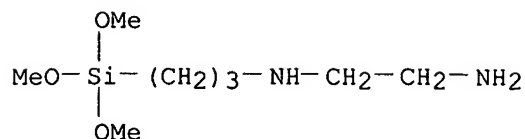


- RN 1185-55-3 HCAPLUS
- CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



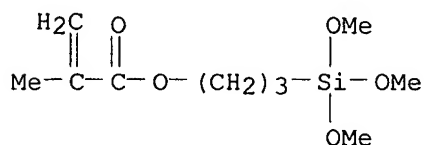
- RN 1760-24-3 HCAPLUS
- CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)





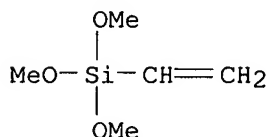
RN 2530-85-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



RN 2768-02-7 HCAPLUS

CN Silane, ethenyltrimethoxy- (9CI) (CA INDEX NAME)



L32 ANSWER 44 OF 45 HCAPLUS COPYRIGHT 2003 ACS

AN 1979:478180 HCAPLUS

DN 91:78180

TI One-part hydrophilic treatment compositions

IN Langager, Bruce A.; Beck, Boyd R.; Sher, Frank T.; Tiers, George V. D.

PA Minnesota Mining and Mfg. Co., USA

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

IC C09K003-18

NCL 106002000

CC 57-1 (Ceramics)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4152165	A	19790501	US 1978-895527	19780411
	ZA 7901020	A	19801126	ZA 1979-1020	19790305
	CA 1108808	A1	19810915	CA 1979-324335	19790328
	DK 7901420	A	19791012	DK 1979-1420	19790406
	SE 7903076	A	19791012	SE 1979-3076	19790406
	NL 7902726	A	19791015	NL 1979-2726	19790406
	ES 479439	A1	19800616	ES 1979-479439	19790409
	BE 875465	A1	19791010	BE 1979-194514	19790410
	AU 7945870	A1	19791018	AU 1979-45870	19790410
	AU 526183	B2	19821223		
	DE 2914538	A1	19791025	DE 1979-2914538	19790410

JP 54138522	A2	19791027	JP 1979-43572	19790410
FR 2422672	A1	19791109	FR 1979-9000	19790410
FR 2422672	B1	19830422		
BR 7902222	A	19791204	BR 1979-2222	19790410
GB 2022601	A	19791219	GB 1979-12635	19790410
GB 2022601	B2	19830223		
CH 643562	A	19840615	CH 1979-3418	19790410
AT 7902662	A	19860415	AT 1979-2662	19790410
AT 381693	B	19861110		
PRAI US 1978-895527		19780411		
US 1978-895528		19780411		

AB Compns. which clean, activate, and impart durable hydrophilicity and **antifogging** properties to siliceous surfaces such as windows, windshields, eyeglasses, mirrors, ceramic tiles, and enameled iron contain sulfonato-organosilanol compds. and abrasives. Thus, a mixt of 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]propyl sulfonic acid [70869-38-4] 2, amorphous SiO<sub>2</sub> abrasive 10, Keltrol thickener 1, and diluent (82 water and 5% iso-PrOH) 87 wt.% was used to clean and treat a window glass. After 500 cycles of rubbing with a cheesecloth at 5 kPa, the glass still retained the hydrophilic layer. Wax marks were easily removed by water and gentle rubbing.

ST hydrophilic coating glass cleaning

IT Windows

(glass, cleaning and hydrophilic treatment of)

IT **Antifogging** agents

(sulfonatoorganosilanol compd.-abrasive for window glass)

IT Abrasives

(vitreous silica, for cleaners for window glass)

IT 60676-86-0

RL: USES (Uses)

(abrasive, for cleaners, for window glass)

IT 70869-38-4 70869-39-5

RL: USES (Uses)

(cleaning and hydrophilic treatment by, of window glass)

IT 70869-38-4 70869-39-5

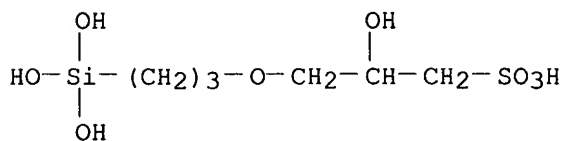
RL: USES (Uses)

(cleaning and hydrophilic treatment by, of window glass)

RN 70869-38-4 HCAPLUS

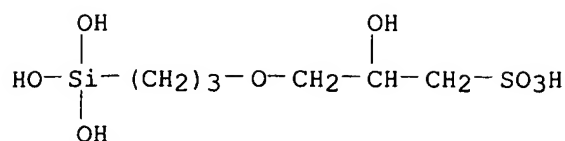
CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]- (9CI)

(CA INDEX NAME)



RN 70869-39-5 HCAPLUS

CN 1-Propanesulfonic acid, 2-hydroxy-3-[3-(trihydroxysilyl)propoxy]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L32 ANSWER 45 OF 45 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1976:422899 HCAPLUS  
 DN 85:22899  
 TI **Antifogging coating materials**  
 IN Yoshida, Masaru; Kaetsu, Isao  
 PA Japan Atomic Energy Research Institute, Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC C08G065-26  
 CC 42-10 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 51039798	A2	19760402	JP 1974-106777	19740918
	JP 58028305	B4	19830615		
PRAI	JP 1974-106777		19740918		

AB A curing resin **compn.** for **antifogging** film is prepd.,  
 contg. glycidol (I) an acrylic compd. or its polymer, a catalyst, and  
 possibly a Si compd. or its hydrolyzate. Thus, a mixt. of  
 vinyltriethoxysilane [78-08-0] 100, 10% aq. NMe<sub>4</sub>(OH)  
 20, and n-PrOH 100 parts was stirred 20 hr at 70.degree. to give a  
 hydrolyzate soln which (30 parts) was mixed with I 100, 2-hydroxyethyl  
 methacrylate 30, C<sub>6</sub>H<sub>6</sub> soln. contg. 1.0% Zn naphthenate 6, n-PrOH contg.  
 0.5% HClO<sub>4</sub> [7601-90-3] 10, and n-PrOH 40 parts, irradiated (Co-60, 5  
 .times. 105 Rad/hr, -30.degree., 2 hr), giving a **coating** soln.  
 The soln. was coated on a diethylene glycol bis(allyl carbonate) polymer  
 sheet and heated 3 hr at 120.degree. to give an **antifogging**  
 20-.mu. **coating** film with pencil hardness 6 H and haze value  
 10.8%.

ST polyglycidol acrylic polymer blend; silicon compd coupling agent;  
 perchloric acid curing catalyst; **coating** material  
**antifogging** transparent

IT **Coating** materials  
 (acrylic polymer-glycidol polymer blends, **antifogging**)

IT Plastics  
 RL: USES (Uses)  
 (acrylic polymer-glycidol polymer blends, crosslinked, **coating**  
 materials, **antifogging**)

IT Siloxanes and Silicones, uses and miscellaneous  
 RL: USES (Uses)  
 (binders, for acrylic polymer-glycidol polymer blends)

IT Crosslinking catalysts  
 (perchloric acid, for acrylic polymer-glycidol polymer blends)

IT 25722-70-7  
 RL: USES (Uses)

(acrylic polymer blends with, crosslinked, coating materials, antifogging)

IT 78-08-0 2530-83-8 3388-04-3

RL: USES (Uses)

(binders, for acrylic polymer-glycidol polymer blends)

IT 7601-90-3, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(curing catalysts, for acrylic polymer-glycidol polymer blends)

IT 25249-16-5 27175-46-8 59620-21-2

RL: USES (Uses)

(polyglycidol blends with, crosslinked, coating materials, antifogging)

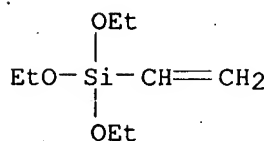
IT 78-08-0 2530-83-8 3388-04-3

RL: USES (Uses)

(binders, for acrylic polymer-glycidol polymer blends)

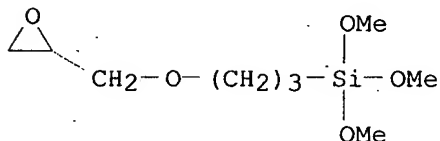
RN 78-08-0 HCAPLUS

CN Silane, ethenyltriethoxy- (9CI) (CA INDEX NAME)



RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 3388-04-3 HCAPLUS

CN Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]- (7CI, 8CI, 9CI) (CA INDEX NAME)

